The mental health difficulties experienced by young people involved in street gangs

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The Mental Health Difficulties Experienced by Young People Involved in Street Gangs

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Abstract

Background

Young people involved in gangs, by definition, offend and are known to have more negative outcomes than non-gang offenders. It is not clear whether there is also an increase in mental health problems for these individuals as 'mental health' is not discussed extensively in literature about gangs.

Aim

To determine if there was a difference between the mental health difficulties experienced by young people:

- Involved in gangs
- Non-gang offenders
- General population.

Method

A preliminary conceptual model was developed and aspects of it tested through a cross-sectional survey. A questionnaire that incorporated two instruments: the Eurogang Youth Survey [EYS] and the Strengths and Difficulties Questionnaire [SDQ], was used and the primary analysis compared the mental health needs of young people involved in gang members, non-gang offenders and the general population.

Results

The questionnaire was completed by 506 young people (449 schools, 57 YOI). Gang members reported significantly higher levels of inattention and hyperactivity and lower pro-social behaviour scores than both the non-gang offenders and the general population. In addition, gang members who scored as either borderline or abnormal for inattention and hyperactivity were more likely to report frequent and serious offences. Gang members had significantly

more emotional problems than the general population but not more than non-gang offenders. These non-gang offenders did not have significantly different emotional difficulties from the general population. Gang members also scored significantly higher for total difficulties than both the general population and non-gang offenders.

Conclusion

This was the first UK study to specifically investigate the mental health needs of young people involved in street gangs. It contributes to the growing evidence about UK gang members, offering a unique child and adolescent mental health perspective. The results inform the development of the preliminary conceptual model and support the need for more research, providing the first indication of what clinical services, treatment interventions and care pathways that meet the needs of this population could be developed and tested.

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Chapter One: Background

1.1. Introduction

Mental health difficulties in childhood and adolescence, particularly within the offender population, warrant attention due to the long term impact on the individual, the family and wider society. Young offenders commit crime and partake in antisocial behaviour in isolation and in groups which may or may not be classified as 'gang related crime.' Gang related crime and associated antisocial behaviour continue to be of concern both nationally and internationally.

Youth gangs, and their criminal activity, have held a fascination for journalists over many years (Gatti et al., 2005). Also, for almost a century, they have been studied and written about by academics (Thomas and Znaniecki, 1918, Asbury, 1927, Thrasher, 1927), particularly in the United States of America [US]. Although there is a good understanding of the mental health of young people generally and of the young offender population, there is scant research detailing the mental health difficulties experienced by gang members specifically and whether this differs from the general population or non-gang offenders.

This chapter sets out the background to the study beginning with section 1.2 which discusses the rationale for this present study. The terms 'young people,' 'mental health,' 'gangs' and 'offending' have many different meanings and so section 1.3 clarifies what the operational definitions are in this present study. Finally section 1.4 provides an overview of this thesis.

1.2. Rationale for the study

'Mental health' is not discussed extensively in gang research. Although Alleyne and Wood (2010), in their unified theory of gang membership, consider that 'psychopathic personality traits, high levels of anxiety, hyperactivity, low IQ, low self-esteem, and/or mental health problems' are the individual factors leading to becoming a gang member, it is unclear how this conclusion was reached, why some mental health problems are separated from the generic term 'mental health,' why

these difficulties were listed as a cause rather than a result of gang involvement and why there is not the suggestion of a reciprocal relationship. In addition, low levels of anxiety are associated with psychopathy rather than high levels (Patrick, 1994, Frick et al., 1999, Verona et al., 2001), making this collection of problems difficult to interpret.

Understanding the lives of gang members is important as antisocial behaviour and mental illness place a high social (Bennett and Holloway, 2004) and financial (Barrett et al., 2006) burden on individuals and societies. For gang members there is further social exclusion when measured by employment prospects (Pyrooz, 2012), poverty (Hagedorn, 1988), family dysfunction (Thornberry, 2003) and drug abuse (Moore, 1991).

Although some researchers have suggested gang membership is just one of many steps in a longer term trajectory of worsening behaviour (Horowitz, 1983, Dupéré et al., 2007) others have strongly argued for separate measures and approaches as the pathways are unique (Swahn et al., 2010). The current evidence indicates there is something different about gang members. Mental health needs could provide one area for further exploration in order to gain greater insight into where interventions could potentially be targeted.

Initially knowledge is needed to understand whether young people involved in gangs do have an increase in mental health problems. Although increased mental health problems are repeatedly mentioned in papers (Lynam, 1996, Frick et al., 1999, Lahey et al., 1999b, Johansson et al., 2005, Lynam and Gudonis, 2005, Dupéré et al., 2007, Freidenfelt and af Klinteberg, 2007) they are rarely investigated through research and it is primarily US literature where different health and criminal justice systems exist. In addition, conclusions have not been drawn from research with clear operational definitions, nor through rigorous research. These papers and their limitations are explored in section 2.7.

In an opinion article Norman (2010), RCN Criminal Justice Nursing Adviser, reports that young offenders with community sentences do not appear to be accessing or maintaining contact with mental health services and therefore are less likely to have

their mental health needs identified and treated until they are a significant way along the road of offending behaviour. This view is supported by a systematic review of the published literature on the views of young people of mental health services in the UK and a thematic analysis (Plaistow et al., 2013). In addition, primary health care may find it difficult to engage young people involved in gangs, increasing the likelihood of unrecognised mental health difficulties. This assertion is supported by Dolan et al. (1999) who found young offenders were less likely to have primary health care including immunisation and contraceptives.

Not until a serious crime has been committed and the young person is in custody do these needs appear to be addressed as mental health service use was found to be substantially lower in community samples than in secure facilities (20% v 60%), although similar mental health needs were found (Barrett et al., 2006). Custody and visits to the Emergency Department following gang related violence may be the only times when these young people come into contact with a health professional. Understanding the needs of this population could inform what training the professionals in the custody suites and the Emergency Department would benefit from.

Further work is needed to understand and breakdown the level of need within the subgroups of offenders. Alternative routes into services are provided by YOS health workers, psychiatric liaison teams in the Emergency department and court diversion services but it is not clear if the same level of mental health need is present for gang members as for the larger offender population. A decision about whether universal services for offenders would meet the needs of the gang members and how to effectively target scarce resources cannot currently be reliably made without a good analysis of the needs.

1.3. **Operational definitions**

Before any phenomenon is examined it must be defined. In this present study it is important to clarify what is meant by a number of terms including ‘mental health’ and ‘gangs’ as they encompass many concepts. ‘Offending’ is often confused with deviant or anti-social behaviour and it encompasses criminal acts that have been

committed, whether or not the person has been caught. The term ‘young people’ needs to be defined as individuals under 18 years of age are being considered, which encompass children and adolescents. This section explores and defines the main terms used in this present study.

1.3.1. *Young people*

In legislation and academic literature, the terms ‘children’ and ‘young people’ are generally separate. Children are pre-adolescent and young people are adolescents, sometimes including those up to the age of 25. Gang members, by using the operational definition set out below, are offenders but can be much older than 18. In the UK young offenders are 10-18 year olds, covering the lower age of adolescence and some pre adolescents. This study therefore considers the 10-18 year old age group and they are referred to as ‘young people.’

1.3.2. *Mental Health*

The mental health needs of gang members, specifically in relation to mental health disorders treated by CAMHS, rather than at a universal level are considered in this study. Although there is much debate about what CAMHS treat (Crown, 2010a), usually young people are assessed and treated for disorders that meet the criteria for a mental disorder as defined under axis one of the International Classification of Diseases, tenth revision [ICD-10] (World Health Organisation, 1992) or the Diagnostic and Statistical Manual of Mental Disorders V [DSM V] (American Psychiatric Association, 2013).

These disorders are ‘a clinically recognisable set of symptoms or behaviours associated, in most cases, with considerable distress and substantial interference with personal functions’ (World Health Organisation, 1992). This criterion was used by the report commissioned by Office of National Statistics [ONS] entitled ‘Mental Health of Children and Adolescents in Great Britain 2004’ (Green et al., 2005) and is used widely in the research internationally.

For the purpose of this study, the section of the ICD 10 that refers to the behavioural and emotional disorders with onset usually occurring in childhood and adolescence are considered. Mental and behavioural disorders due to psychoactive substance use are not specifically considered although questions about current substance use were included in this present study so that this can be considered as a co-variate.

The advantage of using established diagnostic categories for the present study is that it enables comparisons and contrasts to be drawn with the findings of other studies. In addition, CAMHS is increasingly using care pathways, based on diagnostic categories, to inform service commissioning, development and delivery. The findings from this present study could provide further insight into where to target scarce resources.

1.3.3. *Gang*

When conducting gang-related research it is particularly important to clarify what the operational definition is as the term ‘gang’ means different things to different people and it has become shorthand for the media when discussing youth crime. The largest UK study (Sharp et al., 2006) used the term ‘delinquent youth groups’ to label the phenomena in order to avoid the reader stereotyping or the discussion compounding the difficulties experienced by these young people. The same research team (Medina et al., 2013), in a later paper, acknowledge that the term ‘gang’ was avoided at the request of the public body that was funding them and that now it is a term that public policy is more familiar with, although with a variety of definitions attached to the word.

The term ‘gang member’ and ‘gang’ was used in this present study for ease of reference and as policy documents are now using the term more consistently e.g. (Crown, 2013). Although, in the UK, it should still be noted that gangs tend not to be formal organisations and the term ‘membership’ could be misleading (Aldridge et al., 2008). For the purposes of this study the Eurogang definition of a gang was adopted:

‘Any durable, street-orientated youth group whose involvement in illegal activity is part of its group identity’ (Esbensen and Weerman, 2005).

The key terms within this definition have been provided by Weerman et al. (2009, 14):

- ‘‘Durability’ means several months or more and refers to the group, which continues despite turnover of members.
- ‘Street orientated’ means spending a lot of group time outside home, work and school and often on the streets, in shops, parks, cars and so on.
- ‘Youth’ refers to average age in adolescence or early twenties.
- ‘Illegal activity’ generally means delinquent or criminal behaviour not just bothersome activity.
- ‘Identity’ refers to the group, not individual self-image.’

Tremblay et al. (1994) argues that most definitions are correct and what constitutes a gang differs according to political and economic conditions and cultural diversities. The political and cultural conditions relating to labelling a collection of young people a ‘gang’ are not considered in this current study. Aldridge et al. (2008) and Medina et al. (2013) provide a detailed discussion of this in relation to the UK context.

There is substantial discussion in the academic literature, both in the US and internationally, about how the term ‘gang’ is best defined. Many definitions emerge that were considered not suitable for this present study. The majority come from the US where

‘gang members often commit violent crime (including homicide), carry guns, commit a broad spectrum of offence types, supply drugs, consume drugs, commit criminal damage (including gang graffiti) and engage in general disorder (some of which leads to fear of gangs among residents)’ (Bennett and Holloway, 2004, 315).

Consideration was given as to whether any of the definitions in the US literature would be helpful for this study. For example, ‘a group of people who identify together by a name and/or a territory whose core members are involved in anti-social and/or criminal behaviour’ (Hodgekinson et al., 2009). This definition was similar to other US generated definitions and was not selected for this current study. This was

primarily due to the central feature of the name or territory of a group. These could be considered descriptive rather than defining components of UK gangs according to Sharp et al. (2006). In addition, the definition did not focus on young people specifically. An added difficulty was that it would be hard, using this type of definition, to differentiate between the gang members this present study is interested in and ideological groups, such as neo-Nazis.

European gangs have been explored in depth by Klein et al. (2000) over the past decade in a number of publications. He developed the term 'The Eurogang Paradox' to explain the denial of street gangs in Europe due to the view that they don't fit the American pattern of 'highly structured, cohesive, violent gangs.' In fact, his work, and others, found that the American gangs tend not to fit this pattern either and were very similar to those found in Europe. Klein highlighted the difference between defining features of the definition which are applicable to both the UK and the US context and descriptive features which are culture specific. The definition chosen used only the defining features.

The Eurogang definition was selected as it had been tested in two large studies in the UK (Aldridge et al., 2008, Sharp et al., 2006). These studies are explored in more depth in section 2.5.5. They found the gang culture, such as initiation rituals and identifying tattoos, were different in the UK when compared to the US but the core definers in the Eurogang definition were the same. In a study that was published after the data collection for this present study had concluded (Medina et al., 2013), the same team of researchers, raise questions about the 'street orientated' part of the definition. By using this UK tested definition, data from this present study can be compared with these and other studies and be used to build theories that can be evaluated.

1.3.4. *Offending*

Offending behaviour is defined as any offence for which the person could be arrested and charged under current UK law, whether or not they have been arrested, tried or convicted. Anti-social or deviant behaviour alone is not included in the definition.

1.4. Structure of the thesis

This chapter set out the background to the thesis including the rationale for and operational definitions used in this present study. Chapter 2 presents the literature review and is divided into three parts. These combine to give a detailed review of the literature that is relevant to and has informed this present study, justifying the need for exploration in this area and culminates in the proposal of a preliminary conceptual model. Chapter three outlines the methods used in the research, describing the purpose and objectives of the study as well as the research design and the strategy for data analysis.

Chapter 4 sets out the results of the study and is followed by the discussion chapter, chapter 5, which is structured so that initially the limitations of the study are considered. This is followed by representativeness and demographic profile of the sample. The results of this present study are then considered in relation to the preliminary conceptual model that was introduced in chapter 2. The implications for policy and for future research then precede what the future research priorities might be and how this present study contributes to the knowledge about gangs and mental health. Chapter 6 is the concluding chapter and summaries the thesis whilst setting out the key finds and themes.

Chapter Two: Literature review

2.1. Introduction

The literature review is presented in three parts which are preceded by the rationale for the approach to the literature review that was used. A preliminary search of the literature showed that there is limited literature available about the mental health difficulties experienced by gang members so the approach taken in this review was to consider literature that could inform the study. This was achieved by including literature about the mental health and mental health difficulties experienced by young people and secondly the literature about gangs.

The aim was to draw from these two bodies of literature to develop a preliminary conceptual model of gang involvement and inform the development of the study and the methods used. There are other areas that could have been considered but were not as they were not directly relevant to this present cross sectional study. The third part of this review of the literature focusses on the available measurement tools that could be used or adapted for the purpose of the present study.

Part one initially draws on the literature that provides the background that helped to determine how the sample in this present study is different from the whole population in relation to their mental health. This was developed through considering the mental health and mental health difficulties of young people generally (section 2.3.1) and then that of young people involved in antisocial and offending behaviour (section 2.3.2).

This is followed by an examination of the literature about gangs, drawing on group theory and gang theory as well as the offender public and mental health literature. Literature from the fields of criminology, forensic psychology and sociology were the primary source of papers in this section. A critical and more detailed review of the UK gang studies is included in this section. These both informed the design of this present study as well as allowing for this study to be seen within the context of what is already known.

Over the last decade, the term resilience has been increasingly explored, in relation to young people, and has made its way into the public policy domain (Ager, 2012). The resilience model emphasises building skills and capacities that facilitate successful negotiation of high-risk environments (Olsson et al., 2003) whereas the risk reduction models emphasise removing or avoiding factors that have unwanted outcomes.

Young people who live in areas where there is gang activity are unavoidably exposed to risks that are detrimental to their mental health such as anti-social behaviour, crime, poverty, stigmatisation and fear. In addition, mental health problems, such as depression, anxiety and attention deficit hyperactivity disorder (ADHD) have an impact on the resilience of a young person. This reduction in resilience has an impact on the young person's ability to withstand the effects of the family and social situation.

Gang involvement may also offer opportunities to increase resilience. Although gang involvement increases the risk factors for young people, by exposing them to more violence and anti-social behaviour, it may be that those involved in gangs find the group increases resilience by enabling them to withstand abuse within the family, poverty and social exclusion.

The risk and resilience models are not fully explored in this literature review although are introduced when the theories of gang involvement are used to develop a preliminary conceptual model of gang involvement (section 2.9). Although important, as risk and resilience play a part in minimising the effects of mental health difficulties, the present study is a cross sectional study and therefore would not be able to determine the cause and effect of gang members' mental health needs and how this interacts with other variables.

Young people involved in gangs are, by definition, part of a group and so a brief overview of group theory and the relevance to this study is explored. This is followed by an exploration of the experience of young people involved in gangs in relation to their health generally and their mental health specifically, drawing on international data, due to the lack of literature from the UK.

The outcomes for young people due to having mental health problems are then considered as are the outcomes associated with gang involvement, these are then drawn together and consideration is given as to whether mental health problems differ for those involved in gangs and if there is a reciprocal relationship between being a gang member and mental health difficulties. An overview of groups is followed by gang theory in section 2.4.1. The prevalence of gangs is presented in section 2.4.2 and then a discussion about the outcomes of gang involvement, including offending behaviour.

Finally, part three considers the literature in relation to the tools and methods for measuring mental health difficulties and gang membership. A detailed review of the research tools identified as potentially helpful for this present study is set out.

2.2. Scope of the literature review

A preliminary search of the literature found that the research specifically relating to the mental health needs of young people involved in street gangs is scarce and tends to be based on findings about the general offender population, rather than gang members specifically. It would be understandable if this literature review were to draw upon the offender research rather than the gang specific literature, but research has found that, internationally, gang members have different outcomes and profiles than non-gang offenders. UK research is in its infancy and large scale longitudinal studies are rare but the emerging picture is that the same is true for UK gang members.

As a scholarly, broad view of the literature was needed, a highly structured search would not have been appropriate or helpful. Instead a flexible approach was required, using a variety of approaches. This is in line with the advice given by Griffiths and Norman (2005) when discussing doctoral literature reviews. In their article entitled ‘Science and art in reviewing literature’ they support the use of alternatives to formal literature reviews, particularly for doctoral studies when a broad and detailed consideration of the subject is needed.

Arksey and O'Malley (2005)'s framework for undertaking a scoping review was chosen as the initial approach to considering the literature. They describe scoping of literature as a form of review that tends to address broad topics, where many different study designs might be applicable. The approach used was to do this and then use a funnelling technique to narrow the field down to the primary subject matter-the mental health needs of young people in gangs. This method was used to identify which articles would be helpful to critically appraise in more depth.

In this instance, the scoping included opinion pieces, research articles and historical accounts and was used to identify gaps in the literature to inform a question for this present study. Once this initial scope was completed and the research question was clarified, the articles that had been identified were critically appraised.

The broad focus of the scoping review was 'gangs and mental health' and the question asked was

'What is known, from the existing literature, about young people involved in gangs and their mental health difficulties?'

Once the question and area to be scoped was identified the operational definitions for key terms were decided through consulting with the literature. The inclusion and exclusion criteria were then set; some were identified at the outset, whereas others came to light as the literature was consulted. Due to the wide variety of terms used to describe the phenomenon, the scoping was widened as the literature showed minimal information related directly to the question.

Despite the literature adopting the Eurogang definition more widely in recent times, whether or not to use the term 'gang' is still undecided. Some prefer troublesome or delinquent youth groups or subcultures. Therefore the key words used were:

'Gangs,' 'youth subcultures,' 'troublesome youth groups,' 'informal youth group,' 'delinquent youth groups,' 'street gangs,' 'juvenile delinquents,' 'young offenders,' 'mental health,' 'mental disorder,' 'psychiatry,' 'prevalence' and 'epidemiology.' The combinations are shown in table 2. The keyword combinations were searched in pairs and then with 'AND prevalence' and 'AND epidemiology' were added.

Table 1 Summary of the literature review inclusion and exclusion criteria

Inclusion Criteria	**Exclusion Criteria**
Gangs youth subcultures troublesome youth groups informal youth group delinquent youth groups street gangs juvenile delinquents young offenders mental health mental disorder psychiatry prevalence epidemiology Gang articles from 1916 onwards Criminology and offender mental health literature from 1998 Articles written in English	Gang rape Criminal gangs Crime firms Organised crime groups Ideological gangs Hate groups Motorcycle gangs Prison gangs Formal youth organisations Cliques Urban tribes Adult only articles Non-English articles

Table 2 Keyword combinations

	Mental health	Mental disorder	Psychiatry
Gang	✓	✓	✓
Youth subculture	✓	✓	✓
Troublesome youth group	✓	✓	✓
Informal youth group	✓	✓	✓
Street gang	✓	✓	✓
Juvenile delinquent	✓	✓	✓
Young offender	✓	✓	✓
Epidemiology AND Adolescent	✓	✓	✓

Any articles pertaining to adults only were excluded. ‘Gang rape,’ although often discussed within the context of gangs, focused on the victims or the interaction between perpetrators and victim so was also excluded. Shropshire and Farquhar (2002) differentiate between ‘crime gangs,’ also conceptualised as ‘serious organised crime’ and ‘street gangs.’ The former come together with the purpose of engaging in criminal activity and then disperse. The latter come together for various social and psychological reasons and crime is one of the activities they participate in. This paper is concerned with ‘street gangs’ or ‘youth gangs’ and so ‘criminal gangs,’ ‘crime firms’ and ‘organised crime groups’ were excluded.

Ideological gangs, hate groups, and motorcycle gangs were also excluded, in line with other research from the Eurogang network (Howell, 2007, Klein, 1995a, Klein, 1995b) despite there being on-going debate about whether or not they fit the definition (Simi, 2006, Ball and Curry, 1995). Although youths that are in custody and linked to gang membership outside prison were included, prison specific gangs were excluded. Formal youth organisations, ‘cliques’ and ‘urban tribes’ were also excluded as these terms were too inclusive and do not have criminal activity as a key identifying feature.

The search engines and other methods for identifying the literature were decided and an excel spread sheet devised to log the material as it was identified (table 3). Literature was collected until this thesis was submitted in July 2013 using the databases Scopus, CINAHL, Medline, PubMed, PsychINFO, NHS evidence base, Google Scholar, Evidence for Policy and Practice Information and Co-ordinating Centre [EPPI] and Science Direct.

Hand searching and conference papers, already in the possession of the author, were considered, as well as the reference lists from the articles identified. The networks consulted were National Association for the Care and Resettlement of Offenders [NACRO], Eurogang Programme of Research, Economic and Social Research Council, National Society for the Protection from Cruelty to Children [NSPCC], Prison Reform Trust, the Sainsbury Foundation and the Offender Mental Health Research Network [OMHRN].

Table 3 Literature scope record format

Article reference	How it was located- search engine and key words	Research/ article type	Method	Key points	Country of origin	Limitations	Included or Excluded	Why excluded

Whilst collating the information, relevant organisations and key academics were also consulted. As the information was gathered the findings were recorded on the Excel spread sheet, summarised and reported. Finally gaps in the existing literature were identified and explored before the research question was finalised.

As gang research and articles have been published since 1916, taking decades to gather momentum, it was decided that gang related articles from this time would be included. Initially only European literature was considered, due to the large number of articles available internationally, but this was widened to incorporate key international studies as it was found that European gang research was in its infancy and had therefore generated few papers. It was not possible to cover all the articles relating to gangs internationally as the number was so vast. Instead, all the articles that were specifically about the mental health of gang members, or were found when a combination of gang related keywords and mental health keywords were used, were included plus papers that summarise the theoretical approaches and those that were a meta-analysis of risk factors leading to gang involvement.

Very little was found relating specifically to the mental health of gang members and, when mental health was mentioned, it tended to be non-specific. The literature about the mental health of the general young offender population was therefore also included as offending was a key component of the operational definition. Offender mental health literature, from 1998 to the present day, was included as the Crime and Disorder Act (1998) brought with it a change, in the UK, to the philosophical approach and the strategic direction of the Youth Justice System. It became more focused on prevention and early intervention and developed a focus on multi agency working, making health a statutory part of the multi-agency service.

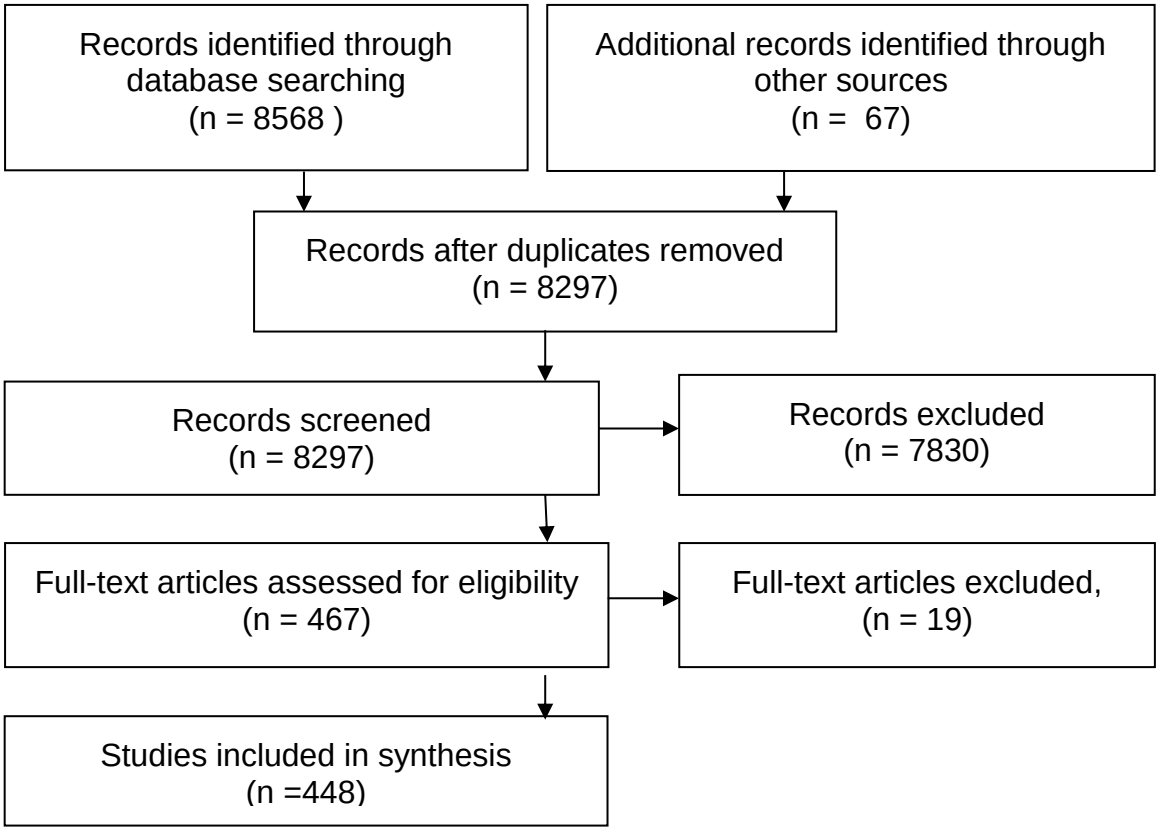
This Act also lowered the age of criminal responsibility from 14 to 10, meaning that studies prior to this time included only young people from the age of 14. Although, as with the general population, prevalence rates for mental disorders below the age of 14 are lower (Teplin et al., 2002, Cohen et al., 1993) the literature post 1998 tended to include the lower age group. In addition, the UK gang research has shown that gang membership can occur at a young age, sometimes before the age of 10 (Smith and Bradshaw, 2005).

An additional reason for choosing this period was, in the early 1990s, studies of the prevalence of mental health problems in the young offender population reported variable levels of specific disorders, although levels still tended to be higher than the general population (Davis et al., 1991, Cauffman et al., 1998, Eppright et al., 1993, Atkins et al., 1998). These studies focused on the prison population, excluding those with community disposals, and yet community disposals were given a greater emphasis with the introduction of the new Act. Alongside this, researchers developed more robust research methodology, using reliable and valid tools, larger sample sizes and both the prisoner and community population.

Only English language articles were used, due to the time and financial constraints, although potentially relevant material could have been missed due to the large number of Spanish articles from and about the Latin American population. Important studies may also have been missed from Europe although a number are published in English and so could be included.

The initial search of all the databases, hand searching and bibliographies resulted in a total of 8297 articles. A PRISMA flow diagram is shown in figure 1, detailing the number of articles that were included in each part of the literature review. Once the inclusion and exclusion criteria were applied 467 remained. These were all read and summarised and, as the work progressed, gaps in the existing literature were identified. As a result of this a further 19 were found to meet the exclusion criteria, and so were excluded. Throughout the research process the research was consulted regularly and then again before submission, a further search of the literature was completed and 15 articles were added.

Figure 1 PRISMA diagram (adapted from Moher et al., 2009)



In part two frameworks for critical reviews were used to examine the studies that specifically addressed the mental health difficulties of young people involved in street gangs. The discussion is developed to demonstrate how they have informed the design for this present study. This part is concluded with a discussion about how the literature review as a whole comes together to inform this present study.

Part one: The mental health and the gang literature

2.3. Policy and service context

The Department for Education (Crown, 2012b) published 'Positive for Youth,' a strategic document for guiding services for young people aged 13-19. This document places the responsibility on Local Authorities, where it is 'reasonably practicable,' through statutory guidance to provide services and activities to improve young people's well-being. The emphasis of the document is on young people participating and achieving. Positive for Youth details areas that the Local Authorities need to consider and respond to. This present study addresses some of these areas directly, offering Local Authorities, particularly those in inner cities, insight into where precious resources can be targeted.

Positive for Youth stipulates, where it is 'reasonable practicable,' services should be offered that improve young people's physical and mental health and emotional well-being and 'help those young people at risk of dropping out of learning or not achieving their full potential to engage and attain in education or training' (70). This present study explores the mental health difficulties of young people who are involved in offending and gang activity. This places them at a high risk of dropping out of learning and not achieving their full potential. By identifying the specific areas of difficulty, treatments can be developed and tested that have the potential to support these young people to change their life course.

The strategies that have been detailed give the overarching approach to meeting the needs of young people in the UK, in particular England. In sections 1.3.1-1.3.3 the strategies that directly address child and adolescent mental health, the youth justice system and gangs are explored.

2.3.1. *Child and adolescent mental health service*

'The CAMHS review' (Crown, 2008) and 'Keeping Children and Young People in Mind' (Crown, 2010a) as well as 'New Horizons' (Crown, 2009b) and the 'National Service Framework [NSF] for children, young people and maternity services' (Crown,

2010a) provided the main strategic context for CAMHS under the previous governments. These documents emphasis the need for universal, targeted and specialist, joined up services that work together to provide mental health promotion, early intervention, assessment and treatment, aimed at recovery. They also set out how the emotional and mental health needs of young people are everybody's business, a notion that has been supported by the current government and, as a result, the more recent policy documents are supported by multiple government departments.

In 2012, the coalition government published 'No Health Without Mental Health' (Crown, 2012a). This document set the strategic vision for the mental health of people in England of all ages. This document gives limited attention to the mental health needs of young offenders specifically, the main reference being, 'For adolescents, multi-systemic interventions that involve young people, parents, schools and the community have been shown to reduce conduct disorder, improve family relationships and reduce costs to the social care, youth justice, education and health systems.'

'No Health Without Mental Health' discusses the mental health of young people in one section and offenders across the age range in another. In relation to offenders it stipulates that they should have the same access to mental health services as the general population and be offered early intervention for issues that are picked up when they are in the criminal justice system.

This need to ensure equal access has significance for the present study as it is known that offenders are less likely to be engaged in healthcare (Dolan et al. 1999). They first come into contact with the criminal justice system in their youth and knowing what disorders have a higher prevalence could assist commissioners and service providers to target mental health services and treatments appropriately and thereby increasing equality with regard to access to healthcare.

Addressing the mental health needs of young people requires commitment, input and investment from everyone involved in the delivery of services (Hagell, 2004). Alternative approaches for this group of young people need to be considered

particularly as professionals and young people may have different views about what their needs are. Collaborative practices are now seen as the most efficient way of delivering high quality services and ensuring their effectiveness in being responsive to service user needs (Bullock and Little, 1999, Miller and Ahmed, 2000).

Although this approach can be helpful and there has been cross-government department sign up to both 'Positive for Youth' and 'No Health Without Mental Health,' the government departments remain separate, with separate budgets and differing key outcomes they are accountable for. This creates competing demands and priorities for commissioners and agencies and may detract from developing services that come together that have the individual young person at the centre. Offenders, and in particular those involved in gangs, have particular relevance to many government departments due to the long term cost and impact on society. This present study provides insight into the needs of this group that every government department could consider.

2.3.2. *Youth justice system*

This present study explored the mental health needs of young offenders. In England and Wales, young offenders' needs are considered by the Youth Justice Board, an executive non-departmental public body who oversee the youth justice system. Their primary objective is to prevent offending and reoffending by children and young people under the age of 18 and to ensure that custody is safe, secure, and addresses the causes of their offending behaviour, including their mental health needs.

The youth justice system, in its current form, was established by the Crime and Disorder Act (Crown, 1998) with the aim of preventing offending and reoffending by young people. It placed a statutory responsibility on various agencies, including health, to form borough based multi-agency teams, Youth Offending Teams [YOTs]. It stipulated YOTs should include 'a person nominated by a health authority, any part of whose area lies within the local authority's area.'

The model for meeting this requirement varies from borough to borough but frequently this is a mental health professional, although not one trained in forensic mental health. As a result of this approach, the mental health of young offenders has been given a higher profile but it is not clear if the outcomes in relation to mental health for these young people have changed as the key performance indicators that are monitored and reported are in relation to access and waiting times for CAMHS assessments rather than improved mental health.

2.3.3. *Gangs*

The Youth Justice Board [YJB] commissioned the 'Groups, Gangs and Weapons report' (Young et al., 2007) to discover 'the factors underlying any trends, as well as identifying their implications for policy and practice'. This report recommended that YOTs and local services focus on strategies that aim to break the cycle which can lead from group offending to gang involvement but does not talk specifically about these young people's mental health needs. This is a significant omission as mental health difficulties impact on many aspects of a young person's life and have been shown to be more prevalent in the offending population.

In addition to this report, guidelines, such as 'Safeguarding Children and Young People who may be affected by Gang Activity' (Crown, 2010b) have been published detailing how agencies need to be mindful of and report gang activity, emphasising the negative effect of gangs on young people. Although this document contains a section about health it does not mention mental health specifically.

Following the UK riots in 2011 a Cross Governmental Report was commissioned entitled 'Ending Gang and Youth Violence' (Crown, 2011). Whilst this paper was consulted on widely it lacks the evidence to support its strategy. This was mainly due to there not being a comprehensive needs analysis and the lack of evidence available from the UK or internationally to support specific interventions. The mental health needs of these young people are, once again, not mentioned.

In February 2013 the Mayor's Office for Policing and Crime published its gang strategy (Crown, 2013). For the first time in UK gang strategy, the mental health

needs of young people involved in street gangs were highlighted. Although there is little detail, the strategy tasks the Mayor's Office for Policing and Crime as well as local authorities, to 'engage with regional health leads to assess and address the issues relating to CAMHS provision for violent young offenders who are involved in gangs' (p30).

Although CAMHS and the mental health needs of gang members are mentioned in this strategy document it remains unclear whether this group of offenders has a different mental health profile to other, non-gang offenders. To commission services effectively the allocation of money needs to be based on where the needs are, according to the best available evidence. As the strategy document implies, at the current time, this evidence is not available. This present study contributes to the development of the evidence base.

2.4. Mental health and mental health difficulties

2.4.1. Young people

Prevalence studies differ in their estimates of mental health problems in young people. Costello et al. (2002) suggest that having at least one psychiatric disorder by the age of 16 is much more frequent than point estimates would suggest. In their longitudinal community study they found, during a 3-month period, any disorder averaged 13.3% and during the whole study period 36.7% of participants had at least one psychiatric disorder. Green et al. (2005) found 8% of girls and 11% of boys showed some kind of mental disorder and Hagell (2004), in an epidemiological study which explored time trends, suggested adolescent mental health problems have increased for both boys and girls since the mid-1980s, a trend which does not appear to be stopping.

People who have had mental health problems, of any sort, in adolescence are known to have an increase in mental health problems as adults and so it is beneficial to both the individual and society to address these difficulties. Long term follow-up studies of depression and anxiety in adolescents have emphasised the increased risk of adult depression (Harrington et al., 1990, Pine et al., 1998, Weissman et al.,

1999) and show that those with early onset psychosis (under 18) are more likely to go on to have mental health problems as adults (Fombonne et al., 2001). Young people with ADHD are known to have increased difficulties in both their professional and personal life as well as there being an impact on their community (Harper et al., 2008).

2.4.2. Young people involved in antisocial behaviour including offending

The mental health of young offenders is a source of concern in the UK (Bailey, 2003) and studies, using a variety of methodological approaches, have supported the view that young offenders have a high, and often unidentified, number of mental health needs (Wasserman et al., 2011, Chitsabesan and Bailey, 2006, Kroll et al., 2002). This present study considers young people who are involved in offending behaviour, including those who have not been convicted of a crime as well as those in custody. Understanding the relationship between offending and mental health problems could offer some insight into the mental health needs of gang members.

Three papers, Commissioning Healthcare in Prisons (Crown, 2009a), Too Little, Too Late (Edgar and Rickford, 2009) and Actions Speak Louder (Walker and Bridges, 2009) concluded there is a high level of mental health need in the prison population that is not being met prior to them going to prison as well as when they are in custody. These studies focused on adult offenders but the literature shows that this is the case for young offenders too.

Prevalence studies of young offenders suggest conduct disorders, suicide (Beautrais et al., 1996, Shaffer et al., 1996) depression (Pliszka et al., 2000, Shelton, 2001), substance misuse (Facundo and Pedrão, 2008) post-traumatic stress disorder and attention deficit and hyperactivity disorder (ADHD) are more common than in the general population (Biederman et al. 2013).

In one study, reported in two papers (Chitsabesan et al., 2006, Barrett et al., 2006), it was found that 31% young offenders in custody and in the community had mental health needs specifically in relation to depression, anxiety, post-traumatic stress, psychosis, self-harm and hyperactivity. They found that 20% had significant

depressive symptoms, 10% reported anxiety or post-traumatic stress symptoms, 7% were hyperactive, 5% had psychotic symptoms and 10% had self-harmed within the past month. Another study found that as many as 24% of young people who are offenders have reported a prior suicide attempt (Howard et al., 2003).

Many young offenders are not registered with primary care and the only contact they have with health professionals is when they are in the Emergency Department or in the Criminal Justice System (Dolan et al., 1999). When young offenders appearing before a youth court were assessed it was found 7% had psychiatric problems of a nature and degree that required immediate treatment and intervention (Dolan et al., 1999). When considering detained young people, once conduct disorder had been excluded, Teplin et al. (2002) found that, nearly 60% of male young offenders and more than 66% of females met diagnostic criteria and had diagnosis specific impairment for one or more psychiatric disorders. This meant that the symptoms they were experiencing had an impact on their functioning.

'Young people at the interface of the criminal justice system and mental health services risk double jeopardy for social exclusion, alienation and stigmatisation' (Bailey, 1999) both from being involved in the criminal justice system and from having mental health problems. In addition to this factors that are strongly associated with mental health problems, such as childhood trauma, in the form of abuse or loss, were found in higher rates in young offenders who were convicted of offences of a serious nature (Boswell, 1995, Bailey, 1996). Gang members are more likely to be involved in serious offences, both as perpetrator and victim, supporting the need for this present study so that the needs of this group can be addressed (Bradshaw, 2005). Young offenders, including gang members, are first and foremost young people and these policy documents apply to them as much as to any other young people.

2.4.3. Summary

Young people involved in street gangs are, by definition, offenders who may or may not have been arrested, tried or convicted of a crime. This present study considers young people from the whole spectrum of anti-social behaviour, from those who are

not involved in offending behaviour to those who are in custody, having been convicted of serious offences.

It is clear that offenders have an increase in mental health problems and that they are not recognised early enough. There may be many complex and interrelated reasons why this may be including not being seen by health professionals. In addition their difficulties may be misinterpreted as a behavioural problem. This study explores the needs of a subgroup of these offending young people by identifying, using the SDQ, whether gang members have a different psychopathology to other offenders.

2.5. **Gangs**

Gangs can be regarded as an example of a social group. Groups can be found throughout society and individuals belong to various groups, both formal and informal, throughout their life. Groups are an inescapable part of human existence because human beings are group beings (Sussman et al., 2007). People are shaped by groups, they learn how to behave, how to relate to others, develop ideas about self-worth, morals and consequences. Being able to survive and cope in group settings is an important skill, developed in childhood and adolescence, and carried throughout life.

Having a supportive family, community and peer environment are seen as important contributors to resilience (Olsson et al., 2003) but it is clear that not all peer environments are positive experiences. Young people are social beings and although it is generally thought that social relationships are positive and protective there are some groups that negatively influence or affect the young person.

The family group potentially offers a safe group experience where children and young people learn about boundaries, delayed gratification, frustrated plans and conflict management. Thomas and Hynes (2007) suggest that the peer group experience also offers an important means of teaching the child. He maintained that it is through the experience of groups and gradual appreciation of acceptable group behaviour that the child learns that immediate gratification is not possible.

Although this appears a logical conclusion, it presumes that groups are always a positive influence. Both families and peer groups may not be able to provide healthy and helpful developmental experience in a safe way. In some circumstances, what is seen as maladaptive behaviour can be a natural response to abusive and violent relationships and group dynamics.

Young people who have not had healthy group or family experiences have not been provided with those developmental experiences. They may be less able to tolerate deferred gratification and may engage in behaviour that facilitates immediate gratification and increased risk. Higher status in the group may be associated with risk taking behaviour and a lack of regard for the consequences of their actions.

2.5.1. Gang theory

The literature regarding the theoretical frameworks, summarised by Thornberry (1998) and Alleyne and Wood (2010), that have attempted to explain gangs will not be reviewed fully because they tend not to consider the mental health difficulties that either lead to or result from gang involvement. Also, these theories tend to derive from US research and have yet to be tested in the UK.

The theories that have been developed to describe and understand 'gangs' tend to be based on literature exploring gang membership as a dependant variable, an outcome to be described and explained. This suggests that that the theories need to be broadened and not one is complete and conclusive. Despite this, these theories are considered when a preliminary, conceptual model for gang involvement is introduced in section 2.9.

One theory has emerged from UK academics, Alleyne and Woods (2010), who draw on psychological literature, combined with the wider gang literature, to explain why young people join gangs and produced their *unified theory of gang membership***.** They have developed, from this, a 'very preliminary framework' which attempts to unite sociological, criminological and psychological perspectives to form one theory that can 'guide research and develop further theory.'

Although of interest, as the first theory to emerge from the UK, the mental health element of the model, detailed under 'individual characteristics,' implies that mental health problems are independent variables that lead to gang involvement. In addition, as described in section 2.5.4, the collection of mental health problems is difficult to understand. This present study considers the mental health variables in their model to test whether there is an association between them and gang membership. This present study also seeks to contribute to the understanding about whether gang members have a different profile to non-gang offenders and the general population. If this is established further research could be undertaken to determine whether it is a dependent or independent variable.

2.5.2. Prevalence of gangs

There is increasing evidence internationally that gangs exist. Studies have been conducted in the US (Huff, 2002), Central America (Howell et al., 2002), Africa and Asia (Covey, 2003), Europe (Klein et al., 2001, Decker and Weerman, 2005) and the UK (Holloway and Bennett, 2004, Bullock and Tilley, 2002, Mares, 2001). These have found that young people form groups and some partake in antisocial and offending behaviour as a group. The phenomena, whether or not it is labelled a gang, as defined by the operational definition in this present study, has been found throughout the world.

UK criminologists have a long history of denying that gangs exist (Aldridge and Medina, 2008) and there is some resistance to the term being used (Bullock and Tilley, 2002). Literature consistently debates whether researching gangs reifies[1] them (Esbensen et al., 2001, Sullivan, 2006), where gangs are improperly treated as though they were an object.

One view is that a gang is a construct generated by the media and academics rather than a recognisable group. If this were the case, any research involving this

[11] Reification is where something is improperly treated as an object (Kemmering, 2011)

construct would be invalid and could lead to strengthening the perception of gangs existing and demonising youth or specific groups (Alexander, 2000). In addition, by treating gangs as an object there is a risk of the general population feeling removed from the problem, a perception that it affects 'other groups,' such as minority ethnic groups or migrants. This, in turn, could lead to stigmatising individuals and communities as well as unintended punitive policy outcomes.

Sullivan (2006) suggests that focusing on definitions distracts from the bigger, broader problem of youth violence. Gangs are attractive and popular topics of media debate and discussion, but are not necessarily of concern; youth violence, on the other hand, will always be a problem that needs solving. This argument is countered by research indicating those involved in gangs have much higher levels of delinquency whilst in a gang, a trend that reverses when they leave (Huff, 1998, Bendixen et al., 2006).

In recent times, there has been increasing acceptance that gangs exist. Research has gathered momentum and knowledge has grown, although there are few large scale UK prevalence studies. Where they have taken place, as in the Sharp et al. (2006) study of the general population, estimates range from 2-10%. 10% was when least restrictive criteria were applied, where respondents are asked a direct question about whether or not they are in a gang. 2% was when the operational definition used by Eurogang and this present study, plus an additional component- that the group has at least one structural feature.

The wide ranging estimate of prevalence is not only accounted for by the operational definition but also the study site and how the data were gathered. One study found 4% of 11-17 year olds in London in a gang (Communities that Care, 2005) and another that 3.5% of 13 year olds in Edinburgh were in a gang (Smith and Bradshaw, 2005) whereas Sharp et al. (2006), in a study in England and Wales of 4000 10-19 year olds, found 6% were in delinquent youth groups.

When considering arrestees, the New English and Welsh Arrestee Drug Abuse Monitoring programme on gang membership and its relation to crime and drug misuse [NEW-ADAM] study found 45% aged 17 and over to be in a gang (Holloway

and Bennett, 2004). A number of studies have shown that UK gangs have a relationship to offending behaviour (Sharp et al., 2006, Bradshaw, 2005, Bennett and Holloway, 2004) and a Metropolitan Police Commander (British Broadcasting Corporation, 2007) was reported, on the BBC website, as saying 'There does seem to be evidence of a rise in the number of gangs and there seems to be an increase in the number of young people involved.'

Although some authors continue to deny their existence (Joseph and Gunter, 2011), there now appears to be a general acceptance, in both academic literature and government policy, with an understanding that most young people do not join gangs and only a proportion of these commit serious and violent offences (Eitle et al., 2004).

2.5.3. The outcomes of gang involvement

Research has shown that gang involvement increases an individual's delinquency and aggression (Barker et al., 2006), number of sexual partners and participation in unprotected sex (Perron et al., 2008), use of illegal substances (Harper et al., 2008), involvement in criminal activity and decreased employment outcomes (Bullis and Yovanoff, 2006). It has also been shown to increase the negative developmental outcomes and, later in life, gang members are more likely to become school drop outs, have unstable employment patterns, be teenage parents and have multiple disorderly transitions to adulthood (Thornberry, 2003). The cost to the individual and the local community is high; financially, due to the worsening crime problem, and socially, due to the stigma gang problems bring to the community.

Whilst gang membership and serious offending by young people are not coterminous, there is substantial overlap in the risk factors for both. Of those young people that do offend only a proportion will join a gang (Farrington, 1986, Wilson et al., 2006). According to Klein and Maxson (2006), who based their opinion on decades of research they have undertaken into the subject in US and Europe, gang members commit more crime than non-gang members regardless of whether the measure of offending is derived from self-reported methods or official data, and whether the gang membership relates to current or lifetime involvement.

It has been shown there are general differences between young people involved in gangs and non-gang offenders. Three leading gangs researchers (Klein, Thornberry and Weerman) wrote an article summarising what was known about European street gangs in 2006. They reported that gang membership facilitates an increase in violent behaviour over and above that normally associated with peers involved in prolific offending behaviour (Klein et al., 2006). In addition, research has indicated that young people involved in gangs have higher rates of delinquency than their non-gang counterparts before becoming involved in gangs (Eitle et al., 2004, Gordon et al., 2004, Schneider, 2001) and the rates increase on entry to the gang and decrease again on exit (Spergel, 1995).

A number of studies (Moffitt, 1993, Warr, 2002, Moore and Vigil, 1987, Moore, 2002) have shown gang membership offers status, identity and companionship for socially excluded, status-less individuals at a time in their development when peer group influence is strongest. Offending is both tolerated by the group and exerts a cohesive, unifying effect through shared risks, loyalty and secrecy. The literature suggests that offending behaviour is associated with an increase in mental health problems, but the interplay between this and the protective group cohesiveness found in a gang is not clear.

Dukes et al., (1997), in a large scale, cross sectional study conducted in secondary schools found that young people who are unable to integrate into society are more likely to become delinquent and join gangs. This finding was supported by Hill et al., (1999) in research that compared gang members with young people who were not involved in gangs. Likewise, young people with mental health problems can find it difficult to integrate into society and become part of a social group, due to their symptoms, but it is not clear if they are more likely to join a gang. Gangs may be more tolerant of symptoms, such as impulsivity and may view the impulsivity as positive, if it means the individual is more engaged in group offending behaviour.

2.5.4. UK gang research

UK gang research is in its infancy. The main studies are presented in table 4 and the findings in relation to the types of offences that were found to have been committed by respondents in the study by Sharp et al. (2006) are detailed in table 5.

All these studies found that gangs do exist in the UK. Discussion of their findings is confined to those aspects which are relevant to the present study to demonstrate how the findings of these studies were drawn on to inform the questions posed and the design of the present study.

Stelfox (1998) explored whether gangs were acknowledged in the UK by the police and how they viewed them. This was followed by a qualitative study by Mares (2001) who interviewed gang members, the police and community members in Manchester and concluded that gangs' profiles were highly localised. Bullock and Tilley (2002) also conducted their research in Manchester. The study was commissioned to inform the local authority's gun and gang related crime strategy. Similarities were noted in the victims and perpetrators of the gun and gang related crime. This present study explores whether gangs exist, as defined by the operational definition, as well as whether gang members are more likely to report having been a victim of crime, including violent crime, than non-gang offenders.

The New English and Welsh Arrestee Drug Abuse Monitoring (NEW-ADAM) programme (Bennett and Holloway, 2004) was not primarily about gangs but did ask questions about gang membership. Despite only including those over 17 they found that the average arrestee was 19 years old whereas gang members tended to be younger, supporting the strategy in this present study of surveying school aged children.

Table 4 Summary of UK gang research

Author	Aims/objectives	Design	Site	Sample			Comments
				Size	Age	% gang	
Stelfox (1998)	To describe gangs known to the police force.	Postal survey of Police forces. Mainly adults but some young people.	England, Wales	N/A	10 to 19 year olds	N/A	48/51 returned, 16/48 identified gangs. 71 individual male-dominated gang profiles with average age 25-29. Loose structure, no leader. ⅔ white, ¼ mixed ethnically, rest single ethnic group. Wide range of offences, ¾ drug dealing. Violence, 60% possessed firearms.
Mares (2000, 2001)	Historical account of the development of local gangs.	Ethnographic study. Participant observation. Interviewed gang members, residents and police.	Manchester	N/A			No global gang culture. Youth gangs vary in each location. 25-90 members in each gang. Historical class relations and local conditions, coupled with the impact of paths of deindustrialisation. Majority Afro Caribbean but white gangs in Salford.
Bullock and Tilley (2002)	Needs analysis of gun and gang crime for a targeted crime reduction strategy.	Police data and social service files. Interviews with a sample of gang members, practitioner focus groups.	Manchester	N/A			The similarity between victims and perpetrators. The prevalence and reasons for gun carrying were detailed. Conclusions drawn about the geography of gangs and shootings. 4 major gangs, 26-67 gang members each. Majority black males. Weapon carrying was common. Core members plus associate or additional members.

Bennett and Holloway (2004)	Prevalence and nature of gangs, demographics, offending, drug use.	Three year rolling programme. 16 custody suites. Interview with a structured questionnaire	England and Wales	2666	17 and over	4% present and 11% past	Not primarily about gangs. 4% of gang members were female. The gangs were predominantly white. The average age of those arrested was 19 but it tended to be younger for gang members.
Bradshaw (2005), Smith and Bradshaw (2005)	Understand why some become heavily involved in crime, why most stop, gender differences, socio-demographic characteristics Describe relationships between delinquency and other behaviour.	Longitudinal self-reported survey.	Edinburgh	3207	At 13, 16 and 17.	20% said they were gang members at the age of 13, 5% at 17.	Membership of 'hard core' gangs remained level over time. Gang membership was more common in less affluent families and those not living with both parents. Significantly higher in deprived neighbourhoods. Social and ecological context is more important than the characteristics of the individual family. Age 13 equal girls to boys then fell more rapidly in girls than boys. Rates of delinquency and substance use were higher in gang members. Individuals committed more offences when they were in a gang than when not. Link between delinquency and gang membership is possibly independent of the characteristics of the individuals who join. 13 to 17 year olds tended to grow out of the need to identify with a gang and their offending tended to reduce.

Sharp et al. (2006)	Examine the extent of young peoples' involvement in 'delinquent youth groups' and the delinquent and criminal behaviour of members of such groups.	Computer assisted interviews	England and Wales	3827	10-19 year olds.	6%	Home Office funded Most strongly associated factors with were: having friends in trouble with the police; running away from home; commitment to deviant peers; school exclusion; frequently being drunk. Involvement in delinquent youth groups highest among 14 to 15 year olds. Similar for males and females. Ethnically mixed. 6% gang members responsible for 21% of all core offences committed by this age group. See table 5 for details of the offence types. 13% had carried a knife, 1% had carried a gun. 45% in gangs had used an illegal drug in the last year-11% Class A. For non-gang members it was 15% any drug, 3% Class A drugs. Offending by gang members was significantly higher than for non-members who had 'delinquent friends.'
Pitts (2007)	To analyse 'armed youth gangs' to inform a gang reduction strategy.	Analysis of the official data. Semi structured interviews with official agencies. 2 surveys.	Waltham Forest	A descriptive study that took a qualitative approach to the data and, as such, this information was not provided in the report.			Findings were framed in terms of recommendations based on intuition and observation. These were primarily aimed at prevention, early intervention, suppression of gang activity and reassurance to the local community.

Aldridge and Medina (2008)	To produce an ethnographic account of contemporary UK gangs. To contribute to gang theory. To start a National data set. To inform policy.	Participant observation. Interviews with gang members, gang associated, key informants. Focus groups with non-gang youth, parents, community residents.	North English city	214	Not specified	40 gang members 46 associates 21 key informants	Gangs mixed ethnically, not exclusively ethnic minorities. No stable leadership and less organised than expected. Family relations and school failure often why people became involved. Left at life's turning points, such as becoming parents or getting a 'good job'. Membership changed often and did not specialise in any particular offending. Gang culture different from US. Most members saw it as a transitional stage to adulthood. Gangs grew from school and neighbourhood adolescent friendships. Girls perceived as secondary but were affected by the culture, involvement not always trivial.

Only one study used a longitudinal design. This was the Edinburgh Study of Youth Transitions and Crime (Smith and Bradshaw, 2005), a research programme about the causes of criminal and risky behaviours in young people. The core of the programme was a major longitudinal study of a single cohort of around 4,000 young people who started secondary school in Edinburgh in the 1998. Their findings suggest gang membership has a strong statistical effect on delinquency when holding constant the effects of a range of other factors.

In the study an abbreviated Strengths and Difficulties Questionnaire was completed by teachers. Young people were generally asked about their emotions and self-harming thoughts and behaviour but did not complete the SDQ or other validated measures in relation to mental health difficulties. The authors of this study were approached and they reported that these elements of the questionnaire had not been analysed fully. Therefore the results in relation to the young people's mental health have not been published and it is not clear if this was one of the factors that may have impact on the delinquency and gang membership relationship. This present study investigated this subject further, as a secondary objective, and consider if the nature of offences (i.e. severity and frequency) is different for gang members who have specific mental health difficulties.

Sharp et al. (2006) was commissioned by the Home Office in 2003 to investigate delinquent youth groups in England and Wales. Although part of a longitudinal study, the element reported in this paper was cross sectional, interviewing young people at one point in time. The study used the same operational definition as this present study with one addition- that the group has at least one structural feature. Sharp et al. (2006) interviewed 4,259 ten to 25 year olds in 2003 that lived in private households. Young Offenders Institutions, prisons, hospitals and residential homes were excluded and so it is likely that the more serious offenders were not included in the results.

The difference in the rate and type of offences reported by gang and non-gang members is shown in Table 5. They found gang members to be at a

higher risk of more serious and frequent offending and delinquent behaviour. Caution is needed when considering the validity of these findings as it seems possible that they exaggerate the influence of gang status because the researchers do not differentiate between whether offences are committed in the context of the gang or by the person alone, despite being a gang member. The criteria for categorising offences in this present study were based on those used in this study.

Table 5 Offence types (Sharp et al., 2006)

Type of offence	**Definition**	**Non gang offenders**	**Gang members**
'Core' offenders	Robbery (commercial and personal), assault (with and without injury), burglary (domestic and non-domestic), criminal damage (to vehicles and other), thefts of and from vehicles, other miscellaneous thefts (from shop, person, school/college, work) or selling drugs (Class A and other).	26%	63%
'serious' offenders	Theft of a vehicle, burglary, robbery, theft from the person, assault resulting in injury or selling Class A drugs in the last 12 months.	15%	34%
'frequent' offenders	Committing 6 or more offences in the previous year.	7%	28%
Frequent serious offences	Serious offences more than 6 times in the last year.	2%	7%
Drug use		15%	45%
involved in an alcohol related incident		6%	25%

Aldridge and Medina's (2008) ethnographic study of a Northern city sought to describe the gang phenomena through participant observation, interviews and focus groups. One interesting finding from their study was that gang members consistently failed academically and experienced repeated exclusions from school. However, it is not possible to say, from this study, if gang membership led to the school exclusion.

It could be hypothesised that untreated mental health problems contributed to the low achievement at school and that being out of school and not achieving led to gang involvement. School attainment was not explored in the present study but the Aldridge and Medina (2008) study adds support to the need to understand the contribution the mental health needs plays in the life course of gang members.

Mental health difficulties did not feature in either Pitts (2007) or Aldridge and Medina (2008) but the definers and descriptors of the gang definition, used in this present study were supported by both. Aldridge and Medina (2008) also considered both individual and societal factors that may be important and these were considered when deciding which descriptors from the Eurogang Youth Survey would be used. Pitts divided the gangs into subtypes, which were different from subtypes described by Klein et al. (2000) and those by Young et al. (2007) in previous studies. As these appear to be locality specific and based on a varying degree of evidence, subtypes of gangs were not considered in this present study.

Pitts (2007) qualitative study investigated gangs in Waltham Forest. He reports that his findings are based on the information he gathered from the semi structured interviews, informal conversations and his 'inferences and hunches' from during his time in the borough. His conclusions were primarily about society and community responses rather than about the individual needs of the young people involved, including mental health needs. His main conclusion was that gang involvement was a result of social inequalities. It is likely that gang membership is the result of multiple variables, rather than just one. This present study does not consider the societal issues, although it is sited in an area of high socio-economic deprivation as Pitt's study would suggest that there would be a higher than normal prevalence of gang involvement.

Part two: The mental health needs of gang members

Part two of the literature review addresses the mental health needs of gang members by initially considering the general health literature in section 2.6 and how it informed this present study design. This is followed, in section 2.7, by a critical appraisal of the literature that specifically reports studies that have considered the mental health needs as the primary question. Only four papers were found and all were from US but they were used to consider this present studies design and any findings that could be built on. Finally the implications and conclusions for this present study are discussed in section 2.8.

2.6. General health

A handful of papers have considered gangs in relation to general health issues. These have included literature, from the field of public health literature that has used a risk focused paradigm. The focus in this literature is on epidemiology, translated into the risk-focused and risk prevention programme design and evaluation (Farrington, 2000). This presents a different approach from the criminological and criminal justice approaches although studies from these fields have also written about the general health needs of gang members.

Public health considers the interplay between the 'host' (gang member), 'agent' (health difficulty) and 'environment' (context, setting). The areas of general health that are addressed in these papers can be grouped into drinking and drug use, risky and early sexualised behaviour, non-accidental injury, acting in a dangerous or courageous way, especially in the face of adversity, aggression and environmental factors. The research papers are listed in appendix 9.

In addition to the host factors outlined above, there have been found to be environmental factors that are associated with gang membership. Where there are street gangs there is more likely to be poverty, victimisation, fear and social disorganisation (Knox, 1994; Spergel, 1995; Chin, 1996; Howell

and Decker, 1999; Howell et al, 2002) and low socio-economic status (Rizzo, 2003). These factors are also known to correlate with an increase in mental health problems in young people (Boyle and Lipman, 2002; Grant et al, 2003; Essex et al, 2006).

2.7. Critical appraisal of the literature relating to the mental health needs of gang members

Turning to mental health, the literature review found very little research specifically related to the mental health of gang members, particularly from the UK. What was found was from the US and is detailed in table 6. These research papers are critically discussed including how they relate to and informed the design of this present study.

The US literature that dominates gang research makes an important contribution, but the findings cannot be universally applied to the UK setting, in particular the healthcare setting. The two nations have 'divergent political, economic, and migratory patterns' (Van Gemert and Decker, 2008, 15) and, in the UK, communities are not as segregated. Despite this these studies offered insight into research methods that could be used as well as opportunities to compare the results.

The Equator Network website (The Equator Network, 2013) and the Critical Appraisal Skills Programme (CASP) were consulted to ensure that rigour was applied to critically appraising the papers. From the Equator Network and CASP (Greenhalgh and Taylor, 1997) methods were identified to critically appraise the qualitative papers and CASP appraisal checklists for quantitative papers. Each paper is taken in turn and critically appraised before the implications for the present study are detailed. A complete data set of the results was beyond the remit of the journals where these papers were published and therefore only the information given in the articles was able to be appraised.

Table 6 Key studies on which the present study builds

Author	Research aims and objectives	Design	Mental health measure	Gang measure	Key results			
					Sample size	Sample age	% gang members	Findings
Corcoran et al, (2005)	The impact of gang membership on mental health symptoms, behaviour problems and antisocial criminality of incarcerated young men.	Cross sectional. Questionnaires.	Oregon Mental Health Referral Checklist (OMHRC) (Corcoran and Fischer, 2000). Criminal and anti-social behaviour scale (Catalano and Hawkins, 1996)	Self-identification as a gang member plus criminality measures.	73	13 to 19	33%	No difference between gang members and non-gang offenders.
Doyen et al, (2005)	To characterize undesirable behaviour among Haitian youth at risk and determine the relationship between this and traumatic experience	Cross sectional, mixed methods, purposive sampling.	If indicated, Clinical Assessment of PTSD Severity (CAPS), Bellevue Adolescent Interview Scale (BAIS) was used to assess child physical and sexual abuse.	Self-identification as a gang member.	228	12 to 25	15%	Although traumatic experience may still play a role in mental health outcomes among children, childhood victimization does not appear to be related to the formation of gangs.

Maden et al, (2011)	Explores how delinquency and community violence exposure explains internalising problems in early adolescent gang members.	Cross sectional. Data from a large study. Data collection method not specified.	Revised Children's Manifest Anxiety Scale (Reynolds and Richmond, 1997), DISC predicative scales (Lucas et al., 2001). Suicidality was measured using two dichotomous questions.	Self-identification as a gang member.	589	mean 13	5%	Gang membership is related to suicidality but not depression or anxiety.
Kelly et al, (2012)	Examine the effects of exposure to gang violence on adolescent boys' mental health.	Cross sectional. Semi structure interviews and checklist.	Trauma Symptom Checklist for Children (Briere, 1996), the Child Behaviour Checklist (CBCL) (Achenbach, 1991) and Teacher Report Form (Achenbach and Rescorla, 2001).	Self-identification as a gang member.	10	mean 14	Not measured	Exposure to gangs rather than gang membership was studied so they were not categorised into gang and non-gang members to assist with comparison. Concluded that exposure to gang violence increases mental health needs.

2.7.1. Corcoran et al. (2005)

Corcoran et al. (2005) explored the impact of gang membership on mental health symptoms, behaviour problems and antisocial criminality of incarcerated young men by using questionnaires. The age range was 13-19, including both adults and children. 13 and 19 year olds are vastly different and it would be important to consider analysing different life stages separately. It is not clear from the publication that this issue has been given due attention in the analysis.

They investigated mental health symptomatology using the self-report form of the Oregon Mental Health Referral Checklist (OMHRC) (Corcoran and Fischer, 2000). This tool had been tested and proved to be valid and reliable for the offender population but has not been tested for the general population. The reliability and validity of the tool was addressed but It was unclear if the self, parent or professional report versions were being reported when only the self-report was used. Therefore the reliability and validity scores may not accurately correspond with the tool used in the research.

The OMHRC ranks and clusters the scores to give the clinician a total score and subscale scores for mental health problems. In addition to the OMHRC, the Child Behaviour Checklist (Achenbach, 1991) was also used, a well-established screening tool that is considered in part three of this literature review. A full diagnostic assessment was not undertaken and so differential diagnoses were not considered.

Corcoran et al. (2005) relied on self-reported gang affiliation but added a criminality and antisocial behaviour scale. There are strengths to the approach of asking one question. It is quick and easy to administer and it results in one dichotomous response, analysis is therefore simplified. The main difficulty is that it is impossible to know what the young people's concept of a gang and a gang member is from this one question. Each respondent could have a different concept in mind when they answer the question and each person interpreting or reading the data may also have a different

definition. As a result of using this method, comparisons across the sample and with other research would not be reliable.

Corcoran et al. (2005) gave limited information in the results section making it difficult to ascertain if the data supported their conclusions. They concluded that there was no difference between gang and non-gang offenders in prison, once mental health symptoms were controlled for, and this was particularly true for externalising problems, such as attention and self-destruction.

As this study was a cross-sectional study the causal directions were appropriately not explored. The sample size was small and only consisted of young men who were in prison, a population that is known to have a high incidence of mental health problems. In addition there was a wide age range and the small sample size which would have precluded using age as an additional variable for inferential statistics. The critical analysis of this paper was limited by the information that was present in the published article.

2.7.2. Douyon et al. (2005)

Douyon et al. (2005) sought to characterise undesirable behaviour among 'at-risk' Haitian youth and determine the relationship between this and traumatic experience. They used a mixed methods approach which included using a questionnaire to ascertain if PTSD symptoms were present. Those that scored positively were invited to a semi-structured interview. The qualitative nature of these semi-structured interviews means that the results cannot be generalised.

The age range in the study was 12-25, including both adults and children and categorisation resulted in very small sample sizes. As with Corcoran et al. (2005) the age range was very wide and presents a difficulty as the experience and mental health presentation of a 12 year old is very different from a 25 year old. The data is skewed towards the older age group with 50% in the 18-22 age range and 7% below the age of 15. It is not clear from the published paper if this accounted for in the statistical model.

The study investigated the experiences of those who were of Haitian heritage or birth, living in Florida, identified over a three year period. The sample was not obtained through random selection; instead individuals were identified through informal networks. The sampling was not random and the research looked at a very specific population who had migrated to the US. The design of the research meant that alternative variables could not be explored over time so causal pathway identification was not possible and it is unlikely that the method suited the research, it may be more suited to a local needs analysis.

As with Corcoran et al (2005), Douyon et al (2005) also asked a dichotomous question to identify gang involvement and the same limitations apply. A schedule was used to illicit socio-demographic, risk, delinquency and traumatic experience information. If traumatic experiences were identified the person had a Clinical Assessment of PTSD Severity (CAPS). Of the original 291, 47 were put forward for CAPS.

The issue of false positives and false negatives from the screening was not addressed in the paper nor is it clear what information was asked to ascertain what traumatic experience. The Bellevue Adolescent Interview Scale (BAIS) was used to assess child physical and sexual abuse but physical and sexual abuse are not the only traumatic experiences these young people could have been exposed to. Of the original 291 there could have been some false negatives as a result of the way this information was elicited or due to the respondent's interpretation of the question being asked.

Both BAIS and CAPS were tested and found to be reliable and valid, and inter-rater reliability was found to be good. False positives, where some of the 47 were identified as having experienced a traumatic event, is less problematic than false negatives in this study as the CAPS would identify the severity of symptoms linked to the event in question.

Douyon et al. (2005) treated mental health as an independent variable, thereby predicting gang involvement; differential diagnoses were not considered. Descriptive and inferential statistics were reported, including those that were not statistically significant, providing a thorough presentation of the data. Douyon et al. (2005) concluded that although traumatic experience may still play a role in mental health outcomes, childhood victimization does not appear to be related to the formation of gangs.

The Haitian population is significantly different from the wider population due to the natural disasters, including hurricanes, flooding and earthquakes. As a result 75% of the sample in this study indicated that they had been a victim of a natural disaster. Natural disasters tend to have an impact on whole communities and they have to work together and develop resilience in order to overcome them. In contrast the types of trauma usually reported by gang members tend to be in relation to abuse, trauma that often leads to the victim keeping secrets and feeling alone. This difference may be one explanation why Douyon et al. (2005) found correlating gang membership with trauma and mental health problems.

2.7.3. Madan et al. (2011)

Madan et al. (2011)'s findings were from the analysis of data that was collected during a wider reaching study into youth violence in 2004-5. The sampling method was not detailed in the published paper. Once again this was a cross sectional study. The mean age of respondents was 13, the range and distribution was not indicated and therefore it is not possible to comment on whether this had an impact on the results.

They categorised gang members by their response to the question,

'I belong to a gang. True for me/not true for me.'

The implications of this approach were addressed when the Corcoran et al (2005) study were discussed.

Only 31 (5%) young people indicated that they were gang members and 11% of the total sample reported suicidal behaviour. It is not clear from the published paper how many of the gang members also reported suicidal behaviour but the sample size would have been small, indicating that the statistical power of the results was not strong.

They sought to understand whether gang membership in early adolescence is associated with internalising problems (depression, anxiety, and suicidal behaviour) and whether these associations are mediated by delinquency and witnessing community violence. It could be argued that externalising disorders are also relevant to gang members as conduct disorders and attention deficit and hyperactivity disorder are more prevalent in the offending population and often mask an underlying depression therefore it would have been helpful to include externalising disorders in the analysis.

Madan et al. (2011) explained that the participants reported their gang involvement, anxiety, depression, suicidal behaviour, delinquency, and witnessing of community violence although it does not state if this was through a questionnaire or interview. This was a limitation of the report which meant it was difficult to ascertain whether the method of data collection could have had an impact on the accuracy of the information obtained.

Various measures were used including the Revised Children's Manifest Anxiety Scale (Reynolds and Richmond, 1997) to measure anxiety; depression was measured using the DISC predicative scales (Lucas et al., 2001). In addition, suicidality was measured using two dichotomous questions, replicating a previous study, about suicidal plan or attempt in the past twelve months.

These questions were based on research by Reifman and Windle (1995) who asked three questions based on research by Linehan. It is not clear, if the modified questions were tested for reliability and validity. The academic literature exploring suicidality tends to adopt study specific measures for

suicidality, based on various definitions. It is therefore difficult to compare the findings from this study with other studies.

Some challenges of Madan et al. (2011)'s approach are that the DISC has been found to underreport disruptive symptoms (Tremblay et al., 1994) and yet, in young offenders, depression is often masked by conduct problems. The DISC is explored further in part 3 of the literature review. Also, at the time this study was conducted, there were many reliable and validated research tools for measuring mental health symptomatology. It is unclear why this research used a combination of tools, including some questions devised by the researchers themselves. This may have been because this research used data from a larger study rather than a study devised specifically to answer the research question at hand. Further testing would be needed to ascertain if the tools provided a reliable and valid group of questions to use together.

Madan et al. (2011) gave very limited information in the results section and drew a specific conclusion that gang membership was related to suicidal behaviour but not depression or anxiety. The paper does not give enough information to evaluate if this conclusion was justified and they acknowledge that other variables may have contributed to the higher rates of suicidal ideas. If, as their paper suggests gang membership is correlated with suicidality but not depression and anxiety, it would be helpful for future research to consider impulsivity as a factor that would increase risk for a young person in a street gang.

2.7.4. Kelly et al (2012)

Kelly et al. (2012) examined the influence of exposure to gang violence on adolescent boys' mental health. Gang members, non-gang and the general population can be exposed to gang violence, particularly if they live in an area where gangs are prevalent. The exposure may have a different impact on each group so an alternative question comparing the influence of exposure to gang violence by gang and non-gang members would have been a helpful addition to this study. From the results presented it is not possible to ascertain

if being a gang member was a variable that had an impact on the mental health symptoms, nevertheless the paper offers some insight into areas for further exploration and research methods.

The study used a mixed methods approach where the sample size was too small to use inferential statistics but the qualitative data painted a picture of the boys' experiences. It was a localised picture and therefore the findings cannot be generalised to the wider population. They used face to face, semi-structured interviews alongside validated checklists and questionnaires. Young people may be reluctant, when using this data collection method, to discuss the full extent of their involvement in offending behaviour for fear of the consequences of people knowing. Alternatively they may over report in order to portray a certain image.

The study gathered information from care givers and the young people through both semi structured interviews and validated questionnaires. This was then cross referenced to understand the different perspectives and confirm the validity of reports. Mental health was treated as a dependent variable, an outcome of gang involvement and the associated gang violence and used the Trauma Symptom Checklist for Children (Briere, 1996), the Child Behaviour Checklist (CBCL) (Achenbach, 1991) and Teacher Report Form (Achenbach and Rescorla, 2001), all tools that have been found to be valid and reliable. They have also been used in other studies, meaning that the results from this study can be compared with others. Although gang membership is frequently treated as a dependent variable in gang research it remains unclear if this is how it should be treated.

A thorough account of their results, including individual level data and quotes from the young people as well as the descriptive statistics, were presented. This was appropriate for the size of the sample in the study and confidentiality was maintained when the quotes were presented. As Kelly et al. (2012) did not measure whether the respondents were gang members in their study it was not possible to determine whether their mental health needs were different from other offenders who were non-gang offenders or the general

population. They concluded, from their qualitative data, that adolescents' exposure to gang violence can affect their mental health. These results could not be generalised due to the qualitative nature of the study but give useful indications of where future research could be directed.

2.7.5. Implications for this present study

The research question for this present study builds on the methods used and the findings from these studies. It did this by comparing internalising, externalising and behavioural difficulties experienced by gang members with the general population and non-gang offender. This present study considered whether the young people in the sample were victims of crime, both violent and non-violent, and how this correlates with their gang membership status and mental health difficulties.

The four papers that were considered used different sample selection and data gathering techniques although all were cross sectional in design; this is a limitation of the studies, as alternative variables were not able to be ruled out or considered. As yet, the research literature has not established whether there is a difference in the mental health difficulties of gang members when compared to others.

An indication of whether or not there is a difference in mental health difficulties between groups would be a sensible approach before a longitudinal study is conducted, in order to ensure financial and time investments are warranted. This present study, cross sectional in design, sought to establish whether there was a difference.

This present study built on all four studies and learnt from the limitations and strengths that were evident from the published reports with the purpose of maximising the number and integrity of the responses. The methods of data collection in the Madan et al. (2011) and Kelly et al. (2012) studies were considered. They were rejected in favour of an anonymous survey questionnaire to optimise both the response rate and the reliability of the

responses received. In addition, the questionnaire generated three categories that could be compared, rather that considering gangs alone.

The research articles provided a varying level of information but all gave a clear account of how they measured both gang membership and mental health difficulties. The method for categorising young people as gang members and whether or not this should be done were considered for this present study. The wider literature was consulted to learn whether there are alternative approached.

There are major disagreements and ethical issues raised when definitions of gangs are discussed (Howell, 1998, Sheldon et al., 2001, Miller, 2001). Literature consistently debates whether researching gangs reifies them (Sullivan, 2006, Ball and Curry, 1995, Esbensen et al., 2001, Horowitz, 1990, Sullivan, 2005) where gangs are improperly treated as though they are an object. The papers that were appraised do not address these issues and there is a risk that conclusions from the research will be applied to a different population than those in the study as the term ‘gang’ means different things to different people.

Matsuda et al. (2012) considered the different methods for identifying gang members in research. They compared young people who self-define as a gang member, those that fit the Eurogang definition and those reporting friends in gangs with other young people. They found that the three approaches identified largely different young people with only 9% fitting into all three categories and 24% were represented in only two categories. The Eurogang definition captured most young people. Despite this, the young people who were in one or more, were attitudinally and behaviourally different from those that were not in any of the categories which they describe as non-gang youth.

The potential risk with the papers that were critically appraised was that the gang members identified using the one question were different in terms of age, ethnicity and whether they lived in the community and whether they were

in prison. These variables may lead to different groups being interpreted as a gang. This is, particularly pertinent for the prison population where prison gangs are common but distinct from street gangs.

In their conclusions each author focussed on violence, trauma and, to a lesser extent, depression, anxiety and suicide. All, despite some tools measuring for it, neglected to address hyperactivity and inattention in any depth in their discussions. This is surprising as inattention and hyperactivity are known to have a higher prevalence in the offender population. In addition to this, two chose to use the CBCL (Achenbach and Edelbrock, 1981), a tool that is known to under report in this area. This informed the development of this present study, ensuring that inattention and hyperactivity was included.

Whilst appraising these papers it was noted that all four studies had reference lists that consisted of minimal papers from the leading academics in the field of gang literature. Instead the focus was on mental health literature, in particular papers that focus on violence, trauma and offending. The criminology, anthropology, sociology and forensic psychology literature provide great insight into the research area but have been omitted from their reviews so it was decided that these fields would be consulted to see if insight could be gained.

Although the four papers offer some insight into the mental health needs of young people involved in street gangs, they are limited due to issues described above. The small sample sizes limited the statistical power of the findings and therefore the generalisability of the findings. Also, the research did not take place in the UK leaving the questions unanswered about the UK population.

2.8. **Conclusions and implications of this review for the present study**

Gangs have become an increasingly significant, and controversial, phenomena in both the academic and media worlds, and yet the impact of gang involvement, especially on the mental health of the young people

involved, remains under explored. Despite policy and media concern about gangs and youth violence, the effect of this on the young people themselves is rarely considered, a view supported by Pain (2003) who writes 'the issue of young people as victims is submerged by the increasing criminalisation of youth.'

Knowledge of the risk factors for youth crime, in particular gang membership, has grown exponentially over recent times including large scale longitudinal studies (Brame et al., 2001, Broidy et al., 2003, Thornberry et al., 2003), although the majority have come from the US. Differences in exposure to stressful life events are associated with adolescent crime and delinquency (Hoffman and Cerbone, 1999, Hoffman and Miller, 1998, Mazerolle, 1998, Paternoster and Mazerolle, 1994) but little research has been conducted to determine if such exposure, from gang involvement specifically, is associated with higher rates of mental health problems for these young people.

Although mental health problems are frequently cited as being more evident in the offending population (Moffitt et al., 2002, Howard et al., 2003, Dixon et al., 2004), it remains unclear whether mental health problems lead to the offending behaviour or occur as a result of the behaviour or the young person's involvement in the youth justice system. Being a victim of crime is one type of stressful life event that is relevant to gang members.

Increasingly there is evidence to suggest that there is a strong positive relationship between offending and the risk of victimisation (Smith, 2004, Smith and Ecob, 2007) and this effect is enhanced by gang membership (Peterson et al., 2004, Taylor et al., 2007); for females, this is mainly of a sexual nature (Miller, 1998, Venkatesh, 1998). One UK review concluded 'the trauma provoked [in gang members] by such violence does not receive sufficient policy attention, locally or nationally' (Economic and Social Council, 2009).

Gang membership correlates with an increase in problem behaviour, such as offending, and negative developmental outcomes. Despite this and the

evidence of increased exposure to trauma, it is not clear if the same negative effects on the mental health of gang members are present as for the wider offending population.

Studies have supported the idea that various causes of crime interact to amplify each other's effect suggesting that adolescents with social and family risks are particularly likely to affiliate with deviant peers and to manifest behaviour problems (Coley et al., 2004, Hay et al., 2006, Simons et al., 2005). In contrast, studies of the interaction between the individual and other social characteristics have been scarce and have produced mixed results (Dupéré et al., 2007).

Young people who are unable to integrate into society are more likely to become delinquent and join gangs as a result (Dukes et al., 1997, Hill et al., 1999). Likewise, young people with mental health problems can find it difficult to integrate into society, due to their symptoms, but it is not clear if they are more likely to join a gang.

It has been shown there are differences, in terms of risk, between young people involved in gangs and non-gang offenders. It is known gang membership facilitates an increase in violent behaviour over and above that normally associated with peers involved in prolific offending behaviour (Klein et al., 2006). In addition, young people involved in gangs have higher rates of delinquency than their non-gang counterparts before becoming involved in gangs (Eitle et al., 2004, Esbensen and Huizinga, 1993, Gordon et al., 2004, Spergel, 1995) and the rates increase on entry to the gang and decrease again on exit.

Moffitt et al. (2002) found young offenders at age 26 follow up had an elevated incidence of mental health problems. There is emerging evidence to suggest that early intervention in childhood and adolescence can reduce the incidence of mental health problems in adulthood (Bailey, 2002, Farrington, 2000). Meeting the needs of offenders early, before they are in custody, could

reduce the likelihood of more long term problems and thereby reduce the financial and social burden on the young person, their family and society.

Previous studies, looking at offender's mental health, have been primarily regarding prisoners (Cocozza and Skowyra, 2000), with little consistency in the results, making it difficult to compare gang members' mental health with that of non-gang offenders and the general population. This is demonstrated by studies (Timmons-Mitchell et al., 1997, Steiner et al., 1997, Cauffman et al., 1998, Pliszka et al., 2000, Aarons et al., 2001, Garland et al., 2001), where reported rates for affective disorder vary from 2% to 88% and substance use from 13% to 88%. This disparity may also be due to the sample being taken at differing stages in the youth justice system and different operational definitions being applied.

Extensive research has shown that young offenders have high levels of mental health need (Bailey, 2003) but it is unclear whether these mental health problems lead to the offending behaviour, occur as a result of the behaviour, such as their offending, or involvement in the youth justice system. In addition, it is unclear whether there is a difference for young people involved in gangs.

Having a close network of friends and family has been shown to protect against mental health problems in adolescence (Kim and Cicchetti, 2010). Gang members are at once offenders and part of a group, frequently described as 'friends' or 'family.' The group membership and sense of family could protect against mental health problems or serve to meet unmet mental health problems.

UK Government policy (Crown, 2003b, Crown, 2008), research (Minnis, 2003, Gale and Vostanis, 2003, Salmond and Jim, 2007, Farrell and Barrett, 2007) and services are developing multi agency working for mental health problems and offending. Some insight into the mental health of gang members, in which young people are at once the perpetrators and victims of violence, could contribute to revealing the nature of everyday risk for young people in this

context. There is a need to broaden the number of disciplines involved in researching gangs in order to enrich what is known, integrating criminological and psychological concepts (Wood and Alleyne, 2010), and therefore research from a health perspective, could add additional valuable alternative insights.

US literature that dominates gang research makes an important contribution, but the findings cannot be universally applied to the UK setting, in particular the healthcare setting. The contexts of the two nations are different reflecting 'divergent political, economic, and migratory patterns' (Van Gemert et al., 2008, 15). Migratory patterns to and within the UK are different to the US and the UK does not have such a segregated community as the US (Peach, 1996).

In conclusion, it is asserted that, despite a number of papers mentioning mental health problems, there are gaps in the existing literature in relation to the mental health of gang members in the UK. Furthermore the literature does not tell us, if there is a relationship between gang membership and mental health problems. Nor does it tell us, if there is an increase in mental health problems, if this increase is a cause or an outcome of being involved in a gang, or if there is a complex interaction between the two variables.

The mental health of young people involved in gangs is not explored extensively in the research internationally. In the absence of a body of literature which tackles this subject directly the approach taken in this review was to consider literature that may offer some insight, indirectly, with the purpose of summarising what is known and why this area of study is of interest and would contribute to the existing knowledge about the mental health of young people, in particular those involved in gangs. The subject has therefore been discussed within the context of wider subjects and it was found that conclusions have been drawn without robust data to support the assertions made. The review concluded that there was a gap in the literature and this present study was designed to contribute to filling that gap.

What is clear from the literature is that gang members tend to have worse outcomes, across many domains, than other offenders as well as when compared to the general population. Public policy is changing and is now beginning to reflect the need to address the problems associated with gang activity directly. To do this effectively, research needs to be undertaken that can meaningfully inform public policy so that scant resources can be targeted effectively.

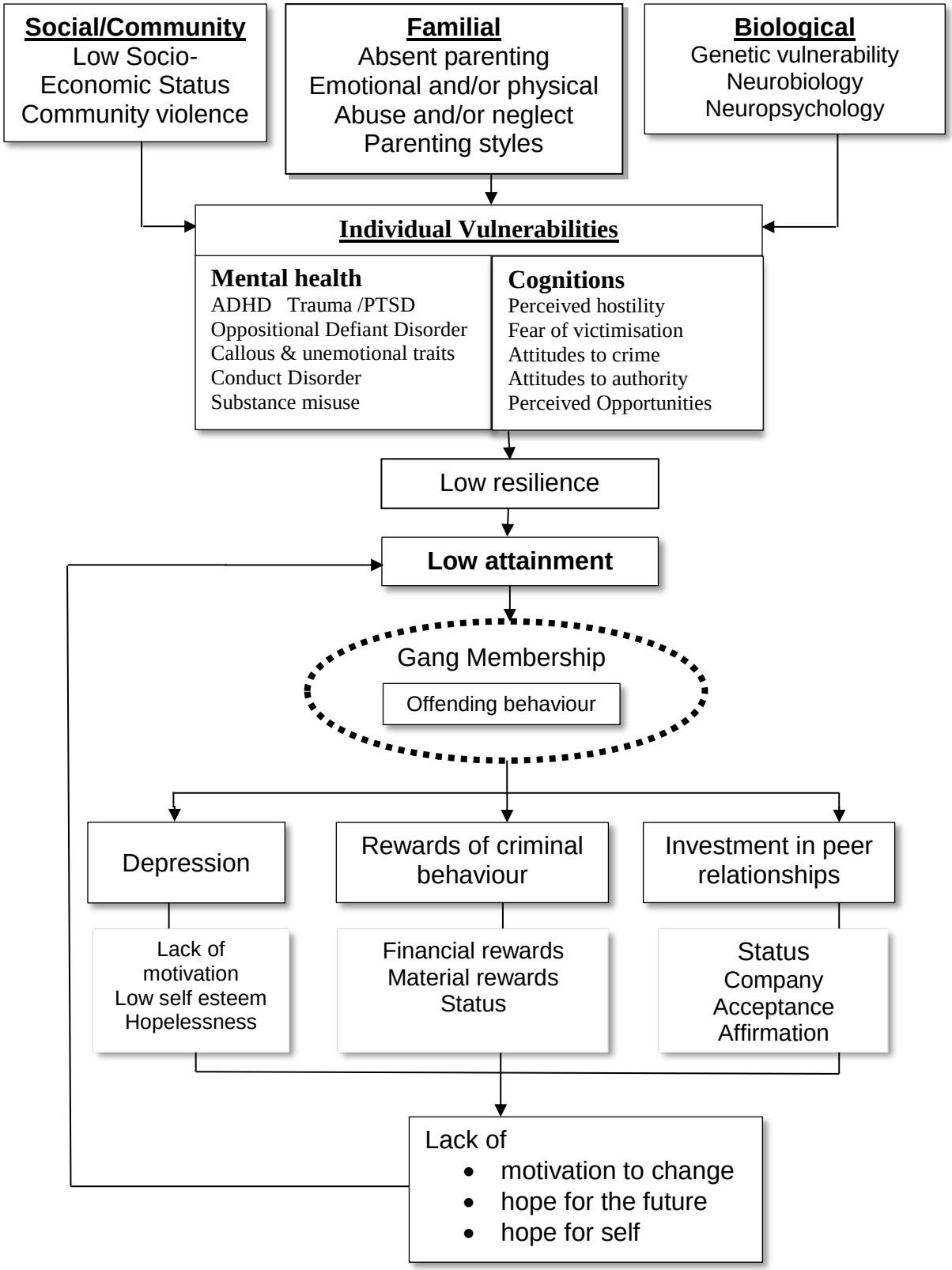
With a greater emphasis on community sentences, improving access to and provision of mental health services for young offenders in the community is a pertinent concern. Mental health provision is integral to effective YOTs (Callaghan et al., 2003) but thought has primarily been given to mental health service provision for detained offenders and access to services for young offenders in the community, rather than treatment. In addition, the outcomes measured have been regarding recidivism, waiting times for CAMHS and engagement with CAMHS rather than outcomes relating specifically to their mental health.

2.9. **Proposed preliminary conceptual model**

A conceptual model of gang involvement that details causal directions would be helpful when undertaking research as well as when developing services. This section will propose a new, preliminary, conceptual pathway model for gang involvement (figure 2). This model has drawn on the theories of gang involvement from the literature. These theories tend to be based on literature exploring gang membership as a dependant variable. The theories are used to develop the model as, when considered alone they tend to be narrow and it is unlikely that one is complete and conclusive.

In addition to these theories the research and papers explored in the literature review are used to inform the model as well as recent findings in relation to the sequence of events for offending behaviour (Defoe et al., 2013) in the field of mental health is used to offer some insight into the possible directional pathway.

Figure 2 Preliminary conceptual model for gang involvement



This model begins by setting out the possible factors leading to gang involvement within the social/community, familial and biological domains. Social disorganisation theory directly links crime to the community's characteristics. Gangs were classically viewed as a by-product of social disorganisation (Whyte, 1943), the weakness of traditional institutions, such as schools, to replace the lost primary networks of the traditional world (Thomas and Znaniecki 1918).

Low socio-economic status has been shown to be one of the many risk factors leading gang involvement (for example, Rizzo, 2003). Gangs have been more likely to be found where there was poverty, victimisation, fear, social disorganisation and low socio-economic status (for example, Howell and Decker, 1999; Howell, et al, 2002; Winton, 2005; Chettleburgh, 2007). The ideas from social disorganisation theory have been expressed in the 'social/community risk factor' at the beginning of the model. In so doing the model puts forward one of the risk factors that can be tested through research.

The second risk factor in the model is familial and has been informed by cultural transmission theory (Shaw and McKay, 1931, 1942), a theory that has traditionally contributes to the ideas about gangs. The theorists who argued from this perspective suggest that socially disorganised neighbourhoods culturally transmit criminal behaviours and norms. They proposed that families in poor inner city areas have little functional authority over their children. The young people are exposed to criminal and delinquent behaviour and then participate themselves, and so the gang membership culture becomes more desirable than legitimate conventions.

Research has shown that there is an association between gang membership and criminogenic families (for example, Hill et al, 2001; Sirpal, 2002; Eitle et al, 2004; Kakar, 2005; Sharp et al, 2006) and families who have gang involvement (Spergel, 1995). Familial factors are supported by research undertaken by Bradshaw (2005) who concluded that those who have lower parental supervision, more frequent arguments with parents, more

punishment, are in the care system and from single parent households are more likely to be associated with gang activity.

The third box in the proposed model is for ‘biological’ risk factors. These are factors that have been identified as potential risks through the work of Beaver et al (2010) showing a link between the level of Monoamine Oxidase A [MAOA], gang membership and weapon use. In addition to MAOA, other difficulties in the neurobiological and neuropsychological domains warrant further exploration as risk factors. These biological risk factors may have a different profile for males and females and would need to be considered when testing this domain particularly as the studies focused only on white males.

All three of the precipitating domains that have been suggested can lead to difficulties for the individual. As a result the individual box has been placed below the precipitating domains. The first two theories that were used to inform this part of the model, social disorganisation and cultural transmission theories, focus on the working classes. Although popular media and social policy focus attention on areas of high deprivation it is not clear if, what is being observed is, in fact, present solely in these areas of society. The theory of differential association moves away from the working classes and recognises that criminality is found in all classes and social substructures (Sutherland, 1937; Sutherland and Cressey, 1960, 1974).

Another theory used to develop this model is the theory of differential association which argues that criminal behaviour is learnt through association with key people who carry the criminal norms. It describes what happens but not why it happens. Akers (1997) developed the theory further suggesting crime is learnt through beliefs that crime is acceptable and is positively reinforced by friendship and ‘respect’ or financial gain. As a result of this theory, two additions were made to the model. Cognitions and investment in peer relationships.

Cognitions have been placed in the ‘individual’ box, the details of which have been adapted from research by Alleyne and Wood (2010). They explored the

moral disengagement strategies employed by those in and on the periphery of gangs in the UK. Investment in peer relationships was added as an outcome box that supports the cycle of gang involvement, reinforcing the cognitions, offering acceptance and affirmation.

The individual factors in the model have also included mental health difficulties. These have been extrapolated from the general offender literature as Fougere et al. (2012) found that, in a sample of young adult and youth offenders, the absence of a likely mental health diagnosis was the only factor significantly correlated with resilience. This resilience was defined as the ability to cope with stress and adversity, suggesting that improvements in the mental health of these individuals may have an impact on resilience and thereby attainment. This would be an area of the model that could be tested to explore whether this has an impact on gang involvement.

Substance misuse is also included as an individual factor. The literature indicates that gang members, in comparison to their non-gang peers (both offenders and those that do not offend), are more likely to report alcohol and illicit drug use (Gatti et al., 2005, Sharpe et al., 2006, Sanders, 2012). Illegal drugs are known to alter a person's mental state and influence their behaviour and emotional state. This would be an important consideration when considering gang membership and possible points where intervention may have an impact.

It is proposed that the factors detailed above lead to a reduction in resilience that in turn leads a lower level of attainment. There has been less written about protective factors and the associated concept of resilience than risk in criminology (Farrington, 2000; Armstrong et al, 2005) but this offers an interesting area of exploration.

Low attainment has been linked to delinquency and criminality in young people (Farrington, 1996). A number of American studies found that one of the strongest school-related risk factors for gang membership is low achievement in school (Hill et al., 1999, Le Blanc and Lanctot, 1998;

Thornberry et al., 2003). Strain theory (Merton, 1938) may offer some ideas about how this may contribute to the model when it considers class differences in relation to opportunity. This theory suggests society sets goals for the population and then only gives the means to achieve them to a limited number of people (Agnew, 1992). Delinquency therefore 'results when [people] are unable to achieve their goals through legitimate channels' (Agnew, 1984, 425). The proposed model then goes on to suggest that a cycle of delinquency and gang membership is established that involves the three outcomes that reinforce and lead to further low attainment- depression, rewards for criminal behaviour and investment in peer relationships.

Depression is included in this part of the model as recent research by Defoe et al. (2013) described that hyperactivity-impulsivity-attention deficit leads to low achievement which leads to delinquency which, in turn leads to depression. Young people who are depressed experience a lack of motivation, low mood and low self-esteem.

Reward for criminal behaviour includes status, financial and material rewards and investment in peer relationships also includes status as well as company, acceptance and affirmation. These three outcomes contribute to a lack of motivation to change, lack of hope for the future and a reduction in hope for oneself that reinforce the low attainment and maintains the cycle.

This is a proposed developmental pathway consisting of the formulation of a probabilistic, testable model which does not have to be deterministic. It does not stipulate that a given individual will definitely follow this path but instead represents a picture of possible risks and potential areas that can be tested and may offer potential points where the pathway can be interrupted. This present research will test the individual, mental health components of the model but will not test the sequence.

Part Three: Measurement Instruments

Drawing on the literature that was considered in the literature review and a further search of the literature about measuring tools, a number of methods for identifying mental health difficulties and gang involvement were found. These are explored in section 2.9 and 2.10. The specific tools that were chosen for this present study are discussed in more detail in the Instrumentation section of the methods chapter (section 3.4).

2.10. Mental health measures

The literature search revealed many tools that could be used by the present study to measure mental health. Consideration was given to those that were tested for reliability and validity (table 7) and had a substantial body of evidence to support their use.

The NIMH Diagnostic Interview Schedule for Children (DISC) is a highly structured diagnostic interview used to determine psychiatric diagnoses. It was decided that this would be unsuitable for the population in this present study where it is hypothesised that ADHD has a high prevalence. Also, the interview takes over an hour to complete and would impact on the number in the study sample. This was also true for the Schedule for Affective Disorders and Schizophrenia for School-Age Children (present and lifetime) (KSADS-(PL)) (Kaufman et al., 2000), which has a long, semi structured interview by an experienced clinician. The advantage of this tool would be that it incorporates bipolar affective disorder and schizophrenia.

The Salford Needs Assessment Schedule for Adolescents (SNASA) covers psychiatric symptoms, education and social needs through a semi structured interview with an experienced clinician. This tool and the DISC and K-SADS-(PL) were deemed not to be appropriate as they were too time consuming and labour intensive for the numbers required.

Table 7 Overview of Mental Health Screening tools considered

Tool	Type	Reference	Advantages	Disadvantages
The NIMH Diagnostic Interview Schedule for Children (DISC)	Highly structured diagnostic interview	Schwab-Stone et al. (1996)	• Determines psychiatric diagnoses	• Underreporting of symptoms and impairments is common, especially for disruptive behaviour disorders (Perrin et al., 1991, Tremblay, 2000). • The interview takes over an hour to complete making it impractical for this study.
Schedule for Affective Disorders and Schizophrenia for School-Age Children (present and lifetime) (K-SADS (PL))	Diagnostic semi structured interview	Kaufman et al. (2000) Hughes (2005)	• Internationally tested for validity and reliability. • Thorough, covering the most comprehensive list of diagnoses.	• Administered only by trained and validated senior clinicians. • Gives a DSM-IV diagnosis rather than ICD-10, which is generally used in CAMHS. • Takes a long time to administer. • Need to interview both the young person and the parents.

Longer Child Behaviour Checklist (CBCL)	Checklist	Achenbach and Edelbrock (1981)	• Takes 30 minutes to complete. • Good at detecting emotional disorders (Goodman and Scott, 1999).	• Not as able as the SDQ to differentiate between children with and without hyperactivity and inattention (Klasen et al., 2000).
Youth in Mind Strengths & Difficulties Questionnaire (SDQ)	Question-naire	Goodman (1997, 2001), Goodman et al. (1998).	• Takes 5 minutes to complete. • Internationally validated tool (Goodman, 1997, Goodman, 2001, Goodman and Scott, 1999, Goodman, 1999, Smedje et al., 1999, Klasen et al., 2000, Koskelainen et al., 2000, Hawes and Dadds, 2004, Marzocchi et al., 2004, Obel et al., 2004, Woerner et al., 2004). • Compared with CBCL significantly better at detecting inattention and hyperactivity, and as good at detecting internalising and externalising problems (Goodman and Scott, 1999). • Validity is increased if SDQs are completed by parent, teacher and child.	• Does not give a definitive diagnosis, rather the likelihood of a particular diagnosis being present.

Salford Needs Assessment Schedule for Adolescents (SNASA)	Semi structured interview	Kroll et al. (1999)	• Psychiatric symptoms, education and social needs • Information on symptom severity, client cooperation, client perception of the problem and keyworker stress (Chitsabesan and Bailey, 2006).	• Can only be completed by an experienced clinician. • Time consuming. • Labour intensive.
Development & Well-Being Assessment (DAWBA)	A package of interviews, question-naires and rating tech-niques	Goodman et al. (2000a)	• Psychiatric diagnoses, 5-17 year olds • Used in large scale epidemiological studies internationally (Heyman et al., 2001, Davis, 2003, Goodman et al., 2003, Rowe et al., 2004) • Administered in a variety of ways. • Principal measure of psychopathology used in the 1999 British nation-wide survey (Meltzer et al., 2000)	• Long. • For the most reliable results it should be completed by the parent, young person and teacher.

The Development & Well-Being Assessment (DAWBA) is a package of interviews, questionnaires and rating techniques designed to generate psychiatric diagnoses for 5-17 year olds and has been used in large scale epidemiological studies internationally. It focuses on common emotional, behavioural and hyperactivity disorders with a version for 11-17 year olds that can be administered in a variety of ways.

The DAWBA was the principal measure of psychopathology used in the 1999 British nation-wide survey (Meltzer et al., 2000) and would be the gold standard for an epidemiological study, giving the most detailed and accurate information. In addition the SDQ is incorporated into it meaning the results can be compared with other studies where the SDQ is used. Despite this the DAWBA was not used. The Eurogang Youth Survey (EYS), which was used in this present study and is described below, is long; using both the EYS and DAWBA may lead to participants spending 1-4 hours completing them, possibly resulting in a low response rate from both schools and individual young people.

The favoured tools were Longer Child Behaviour Checklist (CBCL) and Strengths and difficulties questionnaire (SDQ). These are considered and compared in more detail. The CBCL is completed by the parent but there is also a version for 11-16 year olds that takes 30 minutes to complete. Goodman and Scott (1999) compared it to the SDQ, a brief behavioural screening questionnaire that can be completed in 5 minutes with versions for the parents, teachers and 11-17 year olds. They found the results were highly correlated. When compared with a semi-structured interview, SDQ was significantly better than the CBCL at detecting inattention and hyperactivity, and at least as good at detecting internalising and externalising problems.

Klasen et al. (2000) compared the German CBCL and SDQ finding the only significant difference was the SDQ was more able to differentiate between children with and without hyperactivity and inattention. van Widenfelt et al. (2003) compared Dutch versions and Koskelainen et al. (2000) Finnish versions; both found they were comparable. As inattention and hyperactivity

have been suggested as a possible difficulty for the group, it is self-administered and quick to complete, the SDQ would be the preferred choice.

The SDQ was developed empirically, based on nosology[2]. It is a 25 item, internationally validated tool (Goodman, 1997, Goodman, 1999, Goodman, 2001, Klasen et al., 2000, Obel et al., 2004, Koskelainen et al., 2000, Woerner et al., 2004, Smedje et al., 1999, Marzocchi et al., 2004) that has performed well in terms of its ability to distinguish between clinic and community samples and as a screening device to detect children with a mental health disorder. Research has shown it identifies two thirds of psychiatric disorders in the community. Children with 'high' SDQ scores have greater rates of mental disorder than children with 'low' SDQ scores and therefore can be justified as a tool for identifying high-risk children. There are minimal costs associated with the use of the tool as well as minimal training requirements.

In summary, the CBCL and SDQ both offer a similar level of reliability for all disorders apart from inattention and hyperactivity, where the SDQ performed better. As this area has been suggested as a possible problem for the group, plus it is self-administered and quick to complete, the SDQ was chosen.

2.11. **Gang Measurement**

Self-reported gang membership, where respondents answer 'Are you in a gang?' can be unreliable for identifying gang members. It is a method widely used in the US, where the term 'gang' has a common meaning. In the UK the term is less clearly understood and therefore participants may have a different definition to the one used. Gang membership is often vaguely defined by gang members and entry and exit are not clearly defined. An additional problem with self-reporting is that there are many gang stereotypes and young people may not be motivated to respond truthfully for fear of disclosing criminal activity or the desire to be seen as gang member with the associated status.

[2] Nosology–The classification of diseases.

Police data bases identify young people thought to be involved in gang related activity. These tend to be biased and unreliable, delivering a partial and distorted view of gangs, focussing on the most serious crimes committed by older, male youths from ethnic minorities (Klein and Maxson, 2006). They are gathered for police intelligence, and therefore would not produce a representative sample. Young people may also be reluctant to participate if identified through this method. Researchers have expressed concerns about using self-nomination and police intelligence to generate a research sample (Esbensen et al., 2001, Aldridge and Medina, 2008, Bullock and Tilley, 2008).

The literature search revealed one research tool, the Eurogang Youth Survey [EYS] that has been used extensively and found to be reliable and valid. Three volumes (Klein et al., 2001, Decker and Weerman, 2005, Van Gemert et al., 2008), and an article on gang violence (Klein et al., 2006) give examples of the survey's use. EYS was developed to ensure 'a coordinated process that can develop useful descriptions of European street gangs in such a manner that similarities and differences can reliably and validly be identified and not be undermined by methodological variations' (Maxson, 2001, 304).

Chapter three: Methods

3.1. Overview

This study was a cross-sectional survey designed to address the research questions. The research tool was a questionnaire that incorporated two well established instruments, the Eurogang Youth Survey [EYS] and the Strengths and Difficulties Questionnaire [SDQ]. It was administered, either using a paper and pen or an electronic format, to a self-selected sample of young people attending two inner city schools and one young offender's institution. The questionnaire was developed by combining two well established, valid measures of mental health symptomatology and young people's involvement in gangs. The primary analysis correlated the severity of symptoms of mental health disorders with gang involvement and compared the mental health of gang members with those of non-gang offenders and the general population. This chapter sets out in detail the methods used in the study.

3.2. Research questions and hypothesis

Is there a difference between the mental health difficulties experienced by young people:

- Involved in gangs and by definition offending?
- Not involved in gangs but offending?
- Neither gang members nor offending?

Henceforth these categories are referred to as 'gang members,' 'non-gang offenders' and the 'general population' respectively.

The null hypothesis was conceptualised as

'There are no significant statistical differences in the mental health of young people in years 7-11 in relation to their gang membership status.'

This null hypothesis applies to the UK population of young people in years 7-11. It was tested by analysing data from the study sample to establish whether the results can be generalised to the population.

3.3. **Objectives**

The primary objective of this present study was to determine and compare the mental health difficulties experienced by young people who belong to one of three categories (general population, non-gang offenders and gang members). This included co-morbid mental health difficulties.

Secondary objectives were:

1. To describe gang involvement by young people.
2. To examine the association between selected socio-demographic variables, offending behaviour, gang involvement and mental health difficulties.

3.4. **Research design**

3.4.1. *Research sites*

This present study was designed to focus on and generate a sample that could be used to compare gang members with non-gang offenders and the general population. Gang members tend to be a very small proportion of any population so an area was chosen where it was known, through consultation with the local authority and police, that there was a high level of crime and gang activity.

According to Crown (2012c), the UK city where the study took place has 250 recognised gangs comprising over 4500 people and includes both organised crime and street gangs. These have been responsible for ‘approximately 22% of serious violence, 17% of robbery, 50% of shootings and 14% of rape.’ Although the majority are aged between 18 and 24 Crown (2012c) recognise that younger people are involved in or are on the periphery of these gangs.

The borough in question is within the most deprived 10-20% range on the scale of deprivation in the UK. In inner city boroughs, gang activity is increasingly responsible for violent crime, drugs and the fear of crime; therefore all young people are likely to be affected by this in some way. Understanding the experience of inner city children could inform future policy development and research.

When discussing the research design with the schools that were approached to participate in the study, the staff frequently mentioned young boys who had left their school to go to a Young Offender Institution [YOI]. They were concerned that this small population. Their experience told them that these young people tended to have difficulties in the areas explored and needing a disproportionate amount of resources. They requested that they be included in the study as they may provide valuable comparable information. As a result, one regional YOI that served the same and surrounding boroughs was also invited to participate in the research. The collective term for the schools and the YOI in this study is the 'institutions.'

3.4.2. *Research Sample*

In section 3.8.1 the details of how the minimum sample size was calculated is presented. It was concluded that each of the three categories required a minimum of 68 questionnaires completed and returned. The strategy for obtaining the number required for the sample was developed by considering the potential barriers to participation.

There have been difficulties in previous gang studies where the sample has been too small to analyse (Atkins et al., 1998), has excluded groups such as those with psychotic symptoms, learning difficulties or a physical disability (Chiles et al., 1980) or females (Steiner et al., 1997) or has been about the prison population alone. It was therefore decided that these exclusion criteria would not be put in place for this present study. Only those young people who were not able to complete the questionnaire, due to an inability to understand

the questionnaire would be excluded. This was decided using the information held by the Special Education Needs Co-ordinator (SENCo).

Being labelled as having a gang problem could have been a barrier to the schools participating and, in the UK, the term is not clearly understood and therefore schools may have a different definition to the one used. Also, as already discussed in the literature review, self-reported gang membership, where respondents answer 'Are you in a gang?' can be unreliable for identifying gang members.

As already discussed gang membership is often vaguely defined by gang members and entry and exit are not clearly defined. An additional problem with self-reporting is that there are many gang stereotypes and young people may not be motivated to respond truthfully for fear of disclosing criminal activity or the desire to be seen as gang member.

In order to address these potential difficulties it was decided that the strategy for obtaining the sample was to approach all 22 schools in one local authority, initially by a letter and followed up with telephone calls and visits to the school if they accepted the offer to meet in person. Once the school had agreed to participate, the whole population of year 7-11 in the schools and the whole population of the YOI would be invited to complete the survey. From this population the young people whose parents consented (if they were under the age of 16 years) and all 16 and 17 year olds were invited to complete the questionnaire and included in the analysis, thus creating a self-selected sample.

3.5. **Instrumentation**

This section describes the instruments that were used in the present study together with information on their reliability and validity.

3.5.1. *Strengths and Difficulties Questionnaire*

The SDQ has five scales (emotional difficulties, conduct problems, inattention and hyperactivity, peer problems and pro-social behaviour) and five statements in each scale. For each statement, the respondent has to state whether it is not true, somewhat true or completely true. It allows a total difficulties score to be calculated (excluding the pro-social behaviour scale) and a score for each of the five scales.

In addition there is an impact supplement. The impact statement is only rated if the respondent answers the following question positively:

'Overall, do you think you have difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?'

The score can be categorised as normal, borderline or abnormal with pre-determined bands, according to normal, borderline or abnormal clinical significance, or be used as a continuous variable. The impact supplement assesses whether difficulties upset or distress the young person and cause interference to their life and can also be a continuous variable or classified into the same three bands. The SDQ algorithm was designed to identify three broad diagnostic categories, namely conduct disorders, emotional disorders and hyperactivity disorders (Goodman et al., 2000c).

The research took place in an area of significant cultural diversity. Although questions have been raised about the validity of outcome and diagnostic measures for mental health across cultures, the SDQ has been shown to have good psychometric properties internationally. In addition the SDQ measures behaviours and symptoms rather than psychopathology specifically.

The SDQ was developed to meet the needs of researchers, clinicians and educationalists (Goodman, 1997) and has been tested extensively for both reliability and validity. The internal consistency (Mean Cronbach a: 0.73) and

test–retest stability (after 4-6 months mean: 0.62) of the SDQ are satisfactory (Goodman, 1999, Goodman, 2001, Vostanis, 2006) and parallel forms reliability testing (Goodman, 1997) with the well-established Rutter Questionnaire (Elander and Rutter, 1996) has found it to be comparable. The SDQ is able to discriminate between clinical and community sample with self-report.

The SDQ also correlates well with scales that specifically target symptoms of anxiety, depression and ADHD (Goodman, 1997, Goodman and Scott, 1999, Klasen et al., 2000, Muris et al., 2003). The SDQ discriminates well between children with and without psychopathological symptoms (Goodman et al., 1998, Goodman, 1999) and is an effective screen for child psychiatric disorders in community samples (Goodman et al., 2000b, Goodman, 2001).

The self-reporting SDQ is designed for young people who are 11 years old and over. The tool has been tested for reliability and validity with children younger than 11 (Muris et al., 2004) and it was found the scale is useful for children as young as 8. Koskelainen et al. (2000) used the tool in a sample which included 9-10 year olds. They did not test the psychometric properties but noted that the results were comparable.

When considering false negatives in the results, Goodman et al. (2000b) found that most were partial rather than complete false negatives. This meant that they scored as borderline rather than normal when they were in fact abnormal.

3.5.2. *Eurogang Youth Survey*

EYS contains 94 questions with core questions that determine whether respondents belong to a gang, using a funnelling technique. There are a further two levels of questions that are optional. Introductory questions ensure formal and organised groups are differentiated from gangs and are followed by the defining questions.

Core, defining, questions correspond with the operational definition and so those who belong to a gang are identified. Additional questions consider the cultural and structural characteristics of the gangs as well as illegal activity, individual demographics, personal characteristics and social circumstances.

The EYS was tested for validity and reliability internationally by the Eurogang Network. Extensive work, by multiple teams assessed the tool for predictive validity and the appropriateness and comprehensibility of the questions (Weerman et al., 2009).

3.5.3. *The Survey Instrument*

The questionnaire asked young people about their experiences, rather than gathering reports from adults such as teachers, police or carers. The purpose of this was to enable the research to highlight offending behaviour and the direct experience of young people, presuming they answer honestly. In addition, as policy and initiatives are often based on adult interpretations of a youth phenomenon, having insight directly from the young people will add another valuable dimension to the discussion.

The SDQ and EYS were combined to form one questionnaire (Appendix 5) and put onto the SurveyMonkey software. Table 8 gives an overview of the structure. The extended SDQ, with the impact questions were used and the EYS was shortened. The extended version of the SDQ was chosen as it can indicate psychiatric case-ness and the determinants of service use without adding to the length of the survey to any great extent (Goodman, 1999).

All the core EYS questions were used as well as some of the optional, descriptive questions. Although all the questions are based on past criminological studies and would enhance the ability to make cross study comparisons, a limited number of the optional ones were used. EYS is long and if used in conjunction with another tool; the combined length may have acted as a block to completion for both the institutions and the young people.

Table 8 Questionnaire overview

Original	Theme	Questions
This study	Information and consent	1
	Demographic information	2 to 7
EYS	Personal involvement in antisocial /Offending behaviour	8 to 9
	Victim of antisocial/offending behaviour	10
	Participation in formal Groups	11
	Participation in informal groups	12
	Informal group structure	13 to 19, 26
	Informal group behaviour	20 to 25, 28 to 31
	Respondent specific information about involvement in the informal group	26, 36
	Identification with the word gang	32 to 35
SDQ	Core questions	37
	Impact scale	38 to 42

Most research about gangs with the prison population has primarily been US studies of the adult prison population. They have focused on the relationship between gang involvement and violent or antisocial acts in the prison setting, and recidivism. Maxson (2012) tested the Eurogang Youth Survey on an incarcerated population in US and found that, with the exception of the street orientation element of the tool, the survey could be used with the prison population to understand the prison gang activity. The YOI in question has a transient population where the majority have recently arrived from the community therefore, in this study, the young people were asked about their gang activity prior to being sent to custody rather than leaving the questions open to interpretation.

Demographic questions were added. An additional alteration was the ethnicity question, which was changed to an open ended question:

'How would you describe your ethnicity?'

This allowed the young person to decide freely how to define their ethnicity, rather than have to choose a predetermined category. The borough in question has many children of mixed heritage, leaving this as an open ended question would generate additional information about how the young people define themselves. EYS contains a delinquent behaviour measure but only the items related to offending behaviour were included.

3.6. Data Collection Procedures

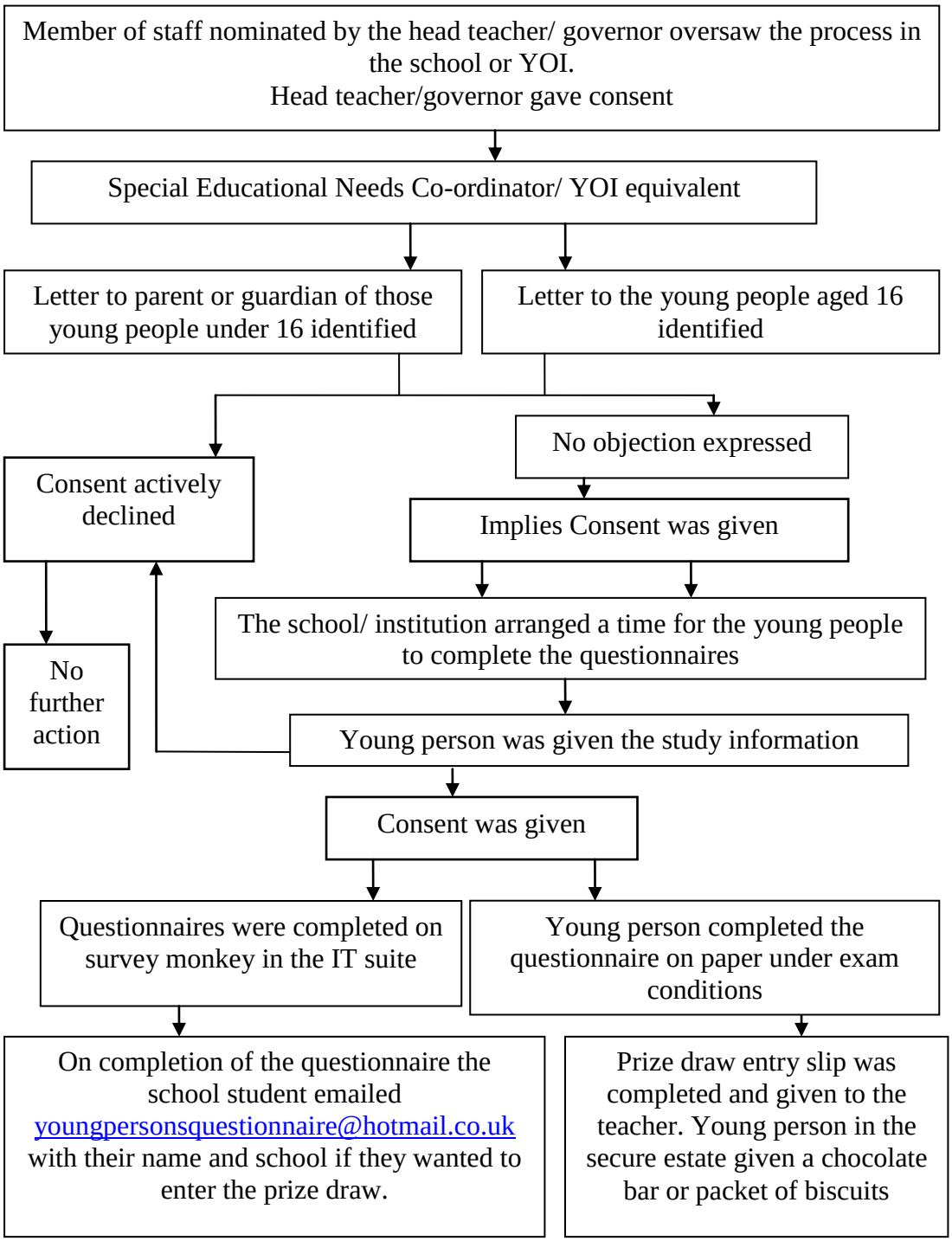
The research procedure is summarised in figure 2. When considering the participant's age range, it was found the peak age of gang involvement was consistent across the literature, 13-15 years. The early- and mid-adolescent developmental period was also found to be one of high exposure and susceptibility to negative peer influences (Aber et al., 1997, Dishion et al., 2006). Some suggest that the average age of gang members is declining (Shropshire and Farquhar, 2002) therefore those invited were in years 7 to 11 (11-16 year olds), school-aged young people.

All young people were eligible to participate unless the Special Education Needs Co-ordinator [SENCo] thought that an individual young person did not have the ability, due to language difficulties or learning difficulties, to understand the questionnaire. These young people were excluded from the study prior to the young people being asked to complete the questionnaire. The decision was made using the School Action and School Action Plus lists. In addition those over 16 were tested for capacity and were excluded if deemed not to have capacity.

Once the schools and YOI had agreed to the study taking place and the SENCo had decided who should be excluded from the study, a letter was sent to every parent or carer of a child under 16 explaining the study. The parent was asked to inform the school if they did not wish their child to participate, by returning a slip that was attached to the letter by a specified date. Alternatively they could give consent but request more information, or request more

information before they decide. If they did not return the slip they were told that it would be assumed that they had given their consent. For the young people that were 16 and above the same procedure was followed but addressing them directly, rather than their parent.

Figure 3 Research procedure



Of the 22 schools approached, 11 did not respond to any communication, 6 declined to be involved, 3 wanted to be involved but dropped out, just before the letters were sent to parents, due to staff resourcing issues and 2 agreed to be involved throughout. The Young Offenders Institution agreed to be involved in the study. Two Pupil Referral Units agreed to participate, one gathered data and the other did not.

Each institution organised the administration of the questionnaire differently so that it caused minimal disruption to their timetable and took account of the IT available. School A used pen and paper in tutorial time, school B completed the questionnaire in an IT lesson on Surveymonkey, the Pupil Referral Unit [PRU] (schools for children excluded from mainstream school) used individual IT time during the school day and the YOI used the paper and pen version in the young people's free time. All questionnaires were completed without peer discussion and with a teacher or officer supervising to ensure they completed it individually and any concerns could be addressed immediately.

Each participant was also given a study information sheet with the contact details for the researcher. Gang members are involved in illegal and relatively secretive behaviour, making it generally difficult to obtain valid and reliable data. The respondents were asked to return the questionnaire without any identifiable information on it, thereby making it anonymous and increasing the likelihood of people responding honestly. Consequently, non-respondents could not be pursued.

3.7. **Ethical Considerations**

3.7.1. *Approval*

Approval for the study was obtained from all the relevant people and governing bodies. Those involved in giving approval had differing perceptions of gang problems. The researcher met with individuals and teams to discuss

the research and answer any questions that they had. The approval process is summarised in table 9.

Table 9 Ethical approval

Who Consent obtained from	**Process**	**Means**
KCL Research Ethics Committee.	The formal process was followed.	Standard forms.
Children's Trust in the borough concerned.	Consulted with the Healthy Schools Lead & Youth Offending Service Lead.	Research proposal. Email communication. Meeting with a nominated person.
Borough's Primary Care Trust Public Health Department.	Consulted with Young Person's Public Health Consultant.	Research proposal. Email communication. Face to face meeting.
Schools within the borough.	Consulted with Head teachers and the SENCo.	Research proposal. Presentations at local Head Teacher meetings.
National Offender Management Service.	The formal process was followed.	Standard Forms.
YOI Governor.	Consulted with the Governor and Head of Inclusion.	Research proposal. Email communication. Face to face meetings.

3.7.2. *Consent*

The study was a survey of young people aged 11-18. As the subjects were children consideration needed to be given as to whether they were sufficiently mature and intellectually developed enough to understand what was required of their participation. This was discussed with individual schools and the YOI and decisions made on their advice.

As some participants were under 16, informed consent to participate was sought from the person with parental responsibility. In research consent can either be active, where they positively opt in, or passive, where not opting out is taken to mean opting in. In this study, consent was passive. Those who either failed to respond were considered to have given their consent and those that actively indicated that did not wish their child to participate were considered a refusal. For those 16 years old and above the same process was followed but the consent was asked of them directly.

All young people were given the opportunity to opt out at any time and to return incomplete questionnaires. Once the information was submitted it could not be withdrawn due to the anonymous nature of the survey. This was explained in the information letters to parents and young people.

3.7.3. *Capacity*

The two stage test of capacity was used for any young person aged 16 or over. The following questions were asked:

- Is there an impairment of, or disturbance in, the functioning of the person's mind or brain?

If so:

- Is the impairment or disturbance sufficient to cause the person to be unable to make that particular decision at the relevant time?

- The following factors were considered:
  - The ability to understand the information.
  - The ability to retain the information related to the decision to be made.
  - The ability to use or weigh that information as part of the process of making the decision.
  - The ability to communicate that decision.

The SENCo or YOI equivalent determined whether the individuals had the capacity to consent to being part of the study. The researcher was available

when the SENCo was unclear about whether or not a young person aged 16 or over, had capacity.

3.7.4. *Data Security*

When completed in paper format, the questionnaires were stored in a locked cupboard until the researcher picked them up. The data was entered into an SPSS v21 (IBM Corporation, 2012) file on an encrypted laptop and copied, for back up, onto an encrypted memory stick. The paper copies, laptop and memory stick were stored securely when not in use.

3.7.5. *Anonymity*

In this study anonymity was ensured for individual respondents and was also maintained for the borough in which the study takes place. There are ethical strengths but analytical difficulties associated with this approach. The promise of anonymity may lead to more respondents, and more honest responses as the fear of being identified will be reduced. The approach counters the challenges expressed by some researchers who have argued that the communities in which gang research is carried out tend to be over-researched and stigmatized as problematic areas (Aldridge et al., 2008). ‘Research on gangs especially runs the risk of leading to repression of marginalised youth’ (Van Gemert et al., 2008, 8).

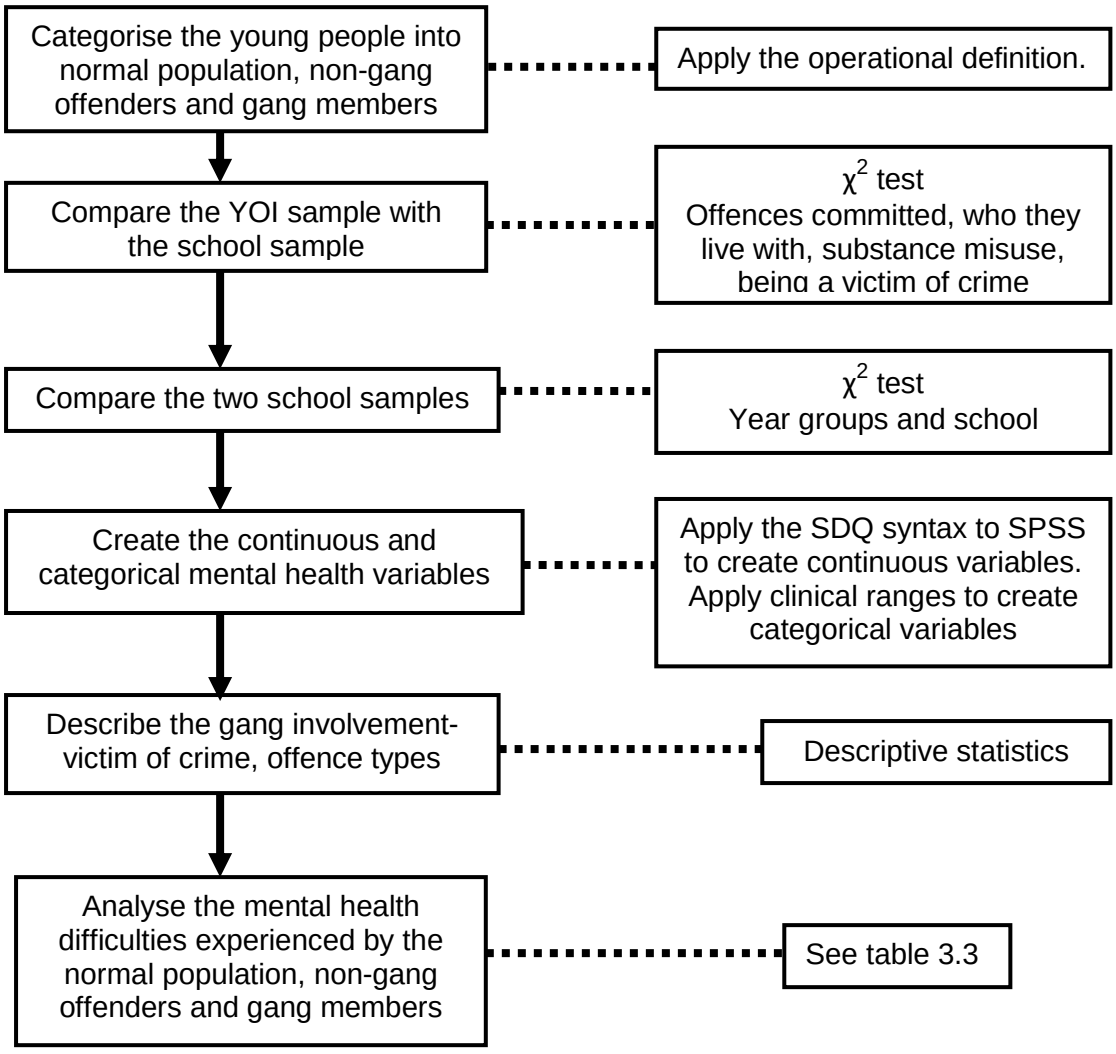
These communities tend to have sensationalist, journalistic style books written about them e.g. Pritchard (2008), glamorising and strengthening the attention they receive. It is important to be mindful of the pitfalls of the gang myths (Howell, 2007) reported by sections of the media or even by gang members themselves who, for protective purposes, are intent on appearing more dangerous than they are (Felson, 2006). For these reasons the decision to keep the borough and institution’s identity anonymous was decided.

3.8. **Pilot study**

Due to the differing governance and operational structures in each school and YOI it was not possible to run a pilot for the research protocol. The results of any such pilot would not have been meaningful for other schools and institutions therefore the questionnaire alone was tested on a small group of 12-17 year olds recruited from informal networks. This pilot resulted in some small changes to the way the questionnaire appeared and the intelligence programming that meant questions could be skipped automatically. In addition, the word ethnicity was defined, using examples.

3.9. **Strategy for data analysis**

Figure 4 Process for statistical analysis



All the responses from the questionnaires were input into SPSS version 21 (IBM Corporation, 2012). The paper versions were input manually and the questionnaires completed on line were electronically exported to SPSS from Surveymonkey. Figure 4 presents a flow chart that describes the steps that were taken to categorise the data and explore it before the objectives were considered. Table 10 sets out the strategy that was used for the statistical analysis in relation to the study's objectives. Following figure 3 and table 10 the narrative explains the method in detail.

Table 10 Analysis of the objectives

	Objectives	**Action**	**Descriptive**	**Inferential**
1	To determine and compare the mental health difficulties experienced by young people who belong to one of three categories: a) Gang members b) Non-gang offenders c) General population	Emotional difficulties	Mean, sd	Ordinal regression
		Conduct problems	Mean, sd	Fisher's exact test
		Inattention and hyperactivity	Mean, sd	ANCOVA
		Peer problems	Mean, sd	ANCOVA
		Pro-social behaviour	Mean, sd	Ordinal regression
		Co-morbid problems	Mean, sd	N/A
		Total difficulties	Mean, sd	ANCOVA
		Impact	Mean, sd	ANCOVA
2	To describe gang involvement by young people and to examine the association between selected socio-demographic variables, gang involvement and mental health problems.	Cross tabulation	Number and percentage	Pearson χ^2 or Fisher's exact test

3.9.1. *Sample size*

As a sample from the whole population was considered, the results obtained may differ from those that would be obtained if the entire population were surveyed purely by chance. This is known as a type I error, for example when two groups have different sample means although their population means are identical. The type I error rate is often set at 5% (i.e. the five per cent level of significance). This is the level at which there is a one in 20 chance of an observed difference being solely due to chance. In order to determine the sample size needed the formula in Dewberry (2004) for an independent samples one way Analysis of Variance (ANOVA) was used.

Data from previous studies was not available to estimate the effect size (f). The sample size calculation was therefore based on a statistical test that compares three independent groups with a medium effect size, power of 90% (1-β) at the 5% level of significance (α). A total sample size of 203 was required. This translated into:

No criminal activity nor gang membership n=68
Criminal activity, no gang membership n=68
Gang membership n=68

EYS manual suggests that 'to get reasonably reliable prevalence estimates of gang membership, one needs at least several hundred respondents, preferably more than 500.' The larger the sample obtained the higher the statistical power and it would be more possible to detect differences between the categories. In general, quantitative samples in criminological research with young offenders tend to have several hundred respondents, and the largest ones range between 1,000 and 4,000.

As a result, for this study, the aim was to ensure there was a minimum of 68 in each category, but to attempt to recruit more than 500.

3.9.2. *Strategy for achieving the required sample size*

The Local Authority and Public Health Department in one inner city borough were approached and consent was gained from them to approach the 22 secondary schools in the one borough. Each of the Head teachers was written to, with a copy to the SENCo. This letter introduced the research and requested a meeting with the Head teacher or allocated representative. This was then followed up two weeks later with a phone call. Consent to conduct the research in the YOI was obtained from the National Offender Management Service and the Governor of the YOI.

Meetings were arranged with the nominated representatives from each school and the YOI. Each was met at least twice so that informed consent could be ensured, the protocol was understood and the tokens of appreciation for the young people, the professionals and the institution could be agreed.

The tokens of appreciation for the schools were

- Entry into the prize draw for all the young people that completed a questionnaire (£300, £200, 5 x £100)
- £100 for each school that participated to be used for the benefit of the staff that supported the project.
- A report for each school.

The literature was consulted when deciding how much the value of the prizes should be. It was found that there is much debate about how much or how little should be paid with no research evidence to indicate the most appropriate value. As a result a decision was made on the bases of the research and clinical experience of the researcher and the supervisor regarding what works to motivate this population. The amounts described above were proposed to the Maudsley Charity and Research Ethics Committee. Both organisations accepted the value and therefore the amount was approved by two committees.

Strict rules govern what could be given to the YOI, hence the difference in the tokens of appreciation. They received

- A chocolate bar and a shower gel for each young person who completed the questionnaire.
- A report for the YOI.

3.9.3. *Independent and dependent variables*

There is uncertainty about whether mental health is a dependent or independent variable in relation to gang membership. Two studies reported an increased incidence of mental health problems in the gang population without attributing it to a cause or effect of gang involvement. Wood et al. (1997) found that gang members were more likely to score within clinical ranges for emotional and behavioural disorders and Murphy et al. (2005), when considering young people exposed to violence, found that acute clinical responses were more likely in gang involved young people.

From reviewing the literature it became clear that there was not a consensus about whether mental health problems were a dependent or independent variable, or if there was a complex relationship between the two. Mental health problems, even serious mental health problems, were mentioned as a risk factor leading to gang involvement by Hill et al. (1999) and Wood and Alleyne (2010) whereas Flannery (2005) proposed that they were the result from gang involvement.

Which variable is the cause and which is the effect can be difficult to separate in relation to physical, mental health and social outcomes as they often overlap (Bynner, 2001). This has also been found to be the case when considering gang membership and offending behaviour in general (Howell and Egley, 2005).

For the purpose of this study, as a result of the uncertainties, the gang membership variable will be the antecedent condition and variations in mental

health will be the outcome. Understanding a causal direction would not be possible from this research. Instead, whether or not there is a difference between the categories of gang member, non-gang offender and general population can be ascertained.

This was decided because the literature indicated, in other domains that difficulties for young people increased on entry to a gang and this reversed as when they left. Also, there was more in the literature discussing young people involved in gang and the related trauma and depression as a result of gang involvement than disorders, such as ADHD, which may be a precursor. ADHD and psychopathic traits tended to be discussed more in the literature about the young adult population. As a result, there were six dependent variables [DV], the SDQ scores, and three independent variables [IV].

3.9.4. *Categorisation*

Mental health variable

The Syntax given in the SDQ user manual was applied to SPSS to generate both continuous and categorical data (shown in table 11) for emotional difficulties, conduct problems, hyperactivity and inattention, peer problems, pro-social behaviour, total difficulties score and impact score.

Table 11 Criteria for the SDQ difficulties score categorisation

Area	Normal	Borderline	Abnormal
Emotional problems	0-5	6	7-10
Conduct difficulties	0-3	4	5-10
Inattention and hyperactivity	0-5	6	7-10
Peer Problems	0-3	4-5	6-10
Pro-social behaviour	6-10	5	0-4
Total difficulties	0-15	16-19	20-40
Impact	0	1	>1

Gang status variable

The strategy for categorisation of young people in a gang, non-gang offenders and the general population are detailed in table 12. Gang members were determined by their answers to key defining questions that corresponded with the operational definition of a gang, ‘any durable, street-orientated youth group whose involvement in illegal activity is part of its group identity’ (Esbensen and Weerman, 2005).

Once this category was determined any that answered positively to being involved in offending behaviour but not in the gang member category were categorised as non-gang offenders. The remaining young people were categorised as the normal population.

Table 12 Strategy for categorisation of subjects.

Cat	Op def component	Question		Criteria
Gang member	Age	17	Which one of the following best describes the ages of people in your group?	<18 yrs old
	Durability	26	How long has this group existed?	>3 months
	Street Orientated	20	Does this group spend a lot of time together in public places like the park, the street, shopping areas, or the neighbourhood?	Yes
	Illegal activity part of the group identity	29	Is doing illegal things accepted by or okay for your group?	Yes to both
		30	Do people in your group actually do illegal things together?	
Non-gang offender	Exclude Gang Members plus Offending behaviour	8	Avoided paying for something such as movies, bus or train rides?	At least one must be answered 'more than once'
			Purposely damaged or destroyed property that did not belong to you?	
			Carried a hidden weapon for protection?	
			Illegally spray painted a wall or building?	
			Stolen or tried to steal something worth less than £25?	
			Stolen or tried to steal something worth more than £25?	
			Gone into or tried to go into a building to steal something?	
			Stolen or tried to steal a motor vehicle?	
			Hit someone with the idea of hurting them?	
			Attacked someone with a weapon?	
			Used a weapon or force to get money or things from people?	
			How many times have you been involved in "gang fights"?	
			Sold illegal drugs?	
Gen pop	Not a gang member and not offending			Exclude A and B

Offence type

Table 13 Offence types in the last 12 months

Type of offence	Sharp et al (2006) Criteria	Corresponding question
'Core' offenders Any offence	Robbery (commercial and personal)	Used a weapon or force to get money or things from people
	Assault (with and without injury)	Hit someone with the idea of hurting them; attacked someone with a weapon
	Burglary (domestic and non-domestic)	Gone into or tried to go into a building to steal something
	Criminal damage (to vehicles and other)	Purposely damaged or destroyed property that did not belong to you
	Thefts of and from vehicles	Stolen or tried to steal a motor vehicle
	Other miscellaneous thefts (from shop, person, school/college, work)	Avoided paying for something such as movies, bus or train rides; stolen or tried to steal something < or > £25
	Selling drugs (Any type)	Sold illegal drugs
'Serious' offenders	Theft of a vehicle	Stolen or tried to steal a motor vehicle
	Burglary	Gone into or tried to go into a building to steal something
	Robbery	Used a weapon or force to get money or things from people
	Theft from the person	Stolen or tried to steal something >£25
	Assault resulting in injury	Attacked someone with a weapon
	Selling Class A drugs	Sold illegal drugs
'Frequent' offenders	Committing any offences more than 6 times in a one year period	Committing any offences more than 6 times in a one year period
Frequent serious offences	Committing serious offences more than 6 times in a one year period	Committing serious offences more than 6 times in a one year period

Offence types were also categorised. Sharp et al. (2006), in their study of gang members categorised the types of offence committed into frequent, serious and frequent serious offences. This present study adopted similar

criteria, although not identical as the questions did not correspond exactly with those in the Eurogang Youth Survey. These are set out in table 13.

In this present study core offences were any that the person could have been prosecuted for. Serious offences were stealing cars, selling drugs, assault, robbery, burglary and theft of more expensive items. Offenders were classified as frequent offenders if they reported committing any offence more than 6 times in the last year and frequent serious offenders if they committed a serious offence more than 6 times in the last year.

Ethnicity

The self-defined ethnicity was categorised in various ways to see if any trends emerged. These were if they stated their colour, the specific wording used, the country stated, the continent or subcontinent stated, multiple or mixed heritage. Some groups were then aggregated to form broad categories.

Institution

The YOI sample was analysed separately from the school sample. Although the young people were from the same geographical area, it was determined, using the Pearson's χ^2 test that the YOI sample was significantly different from the school sample and should be analysed independently.

The schools were analysed together as they were located within 1km of each other, therefore, as non-selective schools, serve the same local population. In addition both schools received an 'outstanding' rating at their last Ofsted inspection.

Despite being from the same population the Pearson's χ^2 test was used to determine whether there were any significant differences between the two school samples. The variables considered were year group, who they live with, substance misuse and being a victim of crime. It was found that there

were significant differences between the schools in relation to the year group therefore year group and school were included as covariates in the analysis.

3.9.5. *Exploration of the data set*

The data set was explored using descriptive statistics within each of the categories, those involved in gangs, non-gang offenders and the general population. The purpose of this was to explore whether the gang members and non-gang members were similar to those in previous research. The areas considered were the type of crime they are involved with, substance misuse, harm from others, demographics of any gangs and what they gain from being in a gang.

Normative SDQ data that has been generated internationally was also considered. The UK specific data was taken from Meltzer et al (2000) who obtained information from 10,298 UK parents (99% of sample), 8,208 teachers (79% of sample) and 4,228 11-15 year olds (93% of this age band) and has been summarised in Appendix 6.

Males and females were considered separately, as well as together, as Johansson and Kempf-Leonard (2009) found, in their qualitative research, females have a different pathway to serious offending with five distinct and interrelated risk factors. These they identified as child abuse victimisation, mental health problems, running away, gang involvement, and youth justice involvement.

3.9.6. *Inferential statistics*

Demographic characteristics were compared between the three gang status groups using the Pearson χ^2 test. When expected numbers in the cells of the table were less than 5 the Fisher's Exact Test was used. As the YOI and the school sample were found to be significantly different they were analysed

separately and this resulted in the YOI categories being too small to go beyond using the Fisher's Exact Test.

For the school samples, the plan had been to use analysis of variance (ANOVA). Due to the confounding issues of the year group and school, which will be explored later, differences between the three groups comprising group membership status were tested statistically using analysis of co-variance (ANCOVA) under the assumption that the dependent variable was normally distributed and that there was equality of variances across groups (School, Year Group). The Levene's test was used to check the latter assumption.

The assumptions underpinning the ANCOVA were not met for three domains, emotional, conduct problems and pro-social behaviour, due to skewness of the data and inequality of variances. A decision was therefore taken to convert these data into clinically significant categories, using the SDQ guidelines (Goodman, 2005).

Ordinal regression was then used to test for significance with 'School' and 'Year Group' as covariates. Ordinal regression does not require the dependent variable to be normally distributed or equality of variances. The model assumes that the parameter estimates of the model do not depend upon the categories of the dependent variable being compared (i.e. the parameter estimates for the model of borderline vs. normal and abnormal vs. normal are the same). To confirm whether this assumption is met a test of parallel lines is required. This test was statistically significant for conduct problems. Limited analysis of the results was conducted using the Pearson's χ^2 test.

The 5% level of significance (Type I error) and 95% confidence intervals were used throughout to determine whether the null hypothesis of no difference between groups was accepted or rejected (Clapham and Nicholson, 2005).

Chapter Four: Results

4.1. Introduction

Chapter four presents the results from the questionnaires that were returned. In section 4.2 the response for the total sample and then the separate institutions and institution types are detailed. This is followed by the details of the demographic features of the sample in section 4.3 including the ethnicity, age and year group the young people were in as well as whether they have been a victim of crime, there are gangs in their neighbourhood and if they have ever been in a gang.

The YOI sample and the school sample are then explored separately in section 4.4 and 4.5, including the results for emotional difficulties, conduct problems, hyperactivity, peer relations, pro-social and total score as well as impact on the young person. The statistical analysis of the schools sample that includes regression models will be presented. Finally, exploration of the data in terms of offending behaviour (section 4.6) and gender (section 4.7) is presented.

The number of young people contributing to each section differs and depends upon the number of respondents with complete data. Only a more limited analysis was possible for the YOI sample because of its small sample size.

4.2. Response rate

After the data was returned, School A reported that they only surveyed classes where the form tutor had chosen to give out questionnaires to pupils and School B said that they only surveyed years 9 and 10. Due to it being the end of the academic year it proved too late to revisit the schools to gather a full data set. The response rate is shown in table 14. When the schools were combined they had a response rate of 94.5% whereas the YOI Response rate was 55.9%. The institutions reported that no young people were excluded as a result of the screening by the SENCo.

Four questionnaires from the Pupil Referral Unit were excluded from any analysis as one was spoilt and the sample size of the remaining questionnaires was too small to warrant any meaningful interpretation. The pupils from the PRU were also from a different population, in terms of not being in mainstream school, to those in the other school sample. They were also not in custody, as with the YOI sample and therefore it would have been inappropriate to combine them.

Table 14 Response rates

	Total population within the Institution	Number asked to complete	Number returned	Response rate
School A	900	210	193	91.9%
School B	690	255	253	99.2%
YOI	130	102	57	55.9%

Some questionnaires were not completed fully but all generated enough information to categorise them into the normal population, non-gang offender or gang member. Where enough information was gathered to generate a score for at least one SDQ variable they were included in the full analysis. In the YOI sample one questionnaire did not have the SDQ completed. In the school sample 83 did not have enough data to give the score for any mental health difficulty variable.

4.3. **Demographics of the samples**

4.3.1. *Young Offenders Institution*

Table 15 details the demographic characteristics of the YOI sample. The respondents were all male and aged between 15 and 18 with the majority being 17 years old, reflecting the demographics of the whole population of the institution. The respondents were initially categorised into general population, non-gang offenders and gang members. All 57 completed enough of the questionnaire to be able to categorise them and this resulting in 7% denying

any offending behaviour, 35% being categorised as non-gang offenders and 58% as gang members.

Table 15 Demographic Characteristics of the YOI sample

		General population n (%)	Non-gang offender n (%)	Gang member n (%)	Total n (%)
Respondents		4 (7.0)	20 (35.1)	33 (57.9)	57 (100.0)
Age	Missing	0 (0)	0 (0)	0 (0)	0 (0)
	15	0 (0)	2 (10.0)	2 (6.1)	4 (7.0)
	16	0 (0)	7 (35.0)	7 (21.2)	14 (24.6)
	17	4 (100.0)	11 (55.0)	22 (66.7)	37 (64.9)
	18	0 (0)	0 (0)	2 (6.1)	2 (3.5)
Victim of crime	Missing	0 (0)	1 (5.0)	0 (0)	1 (5.0)
	No	3 (75.0)	10 (52.6)	10 (30.3)	23 (41.1)
	Any crime	1 (25.0)	13 (65.0)	26 (78.8)	40 (70.2)
	Violent crime	1 (25.0)	11 (55.0)	26 (78.8)	38 (66.7)
Gangs in neighbour-hood	Missing	1 (25.0)	0 (0)	1 (3.0)	2 (3.5)
	Yes	1 (25.0)	14 (70.0)	30 (90.9)	45 (78.9)
	No	2 (50.0)	2 (10.0)	2 (6.0)	6 (10.5)
	Don't know	0 (0)	4 (20.0)	0 (0)	4 (7.0)
Group membership	Ever been in a gang, missing	2 (50.0)	2 (10.0)	0 (0)	4 (7.0)
	Ever been in a gang, yes	1 (25.0)	12 (66.7)	18 (54.5)	31 (58.5)
	Is it considered a gang, missing	2 (50.0)	2 (10.0)	0 (0)	4 (7.0)
	Is it considered a gang, yes	1 (25.0)	7 (38.9)	16 (48.5)	24 (45.3)
Offending behaviour	Frequent	0 (0)	15 (75.0)	31 (93.9)	46 (86.8)
	Serious	0 (0)	17 (85.0)	32 (97.0)	49 (92.5)
	Frequent serious	0 (0)	15 (75.0)	31 (93.9)	46 (86.8)
Ethnicity	Black British	0 (0)	7 (41.2)	4 (4.6)	11 (19.3)
	White British	0 (0)	3 (17.7)	16 (34.0)	19 (33.3)
	Black	1 (25)	2 (11.8)	3 (6.4)	6 (10.5)
	Mixed Race	2 (50)	1 (5.9)	3 (6.4)	6 (10.5)
	English	0 (0)	3 (17.7)	2 (4.6)	5 (8.8)
	Other	1 (25)	1 (5.9)	2 (4.6)	4 (7.0)
	Missing	0 (0)	3 (17.7)	0 (0)	3 (5.3)

In relation to most of the demographic features in table 15 the sample size was too small to use parametric statistics but the Fisher's exact test was used to test if there was an association between the variables. For being a victim of crime there was not a statistically significant association but for violent crime it was found that it was ($p<.05$).

Respondents were asked whether they knew there were gangs in the neighbourhood and most reported that there were. A higher percentage of gang members (91%) reported that there were gangs in their neighbourhood whereas 70% of non-gang offenders thought there were. The Fisher's exact test revealed that this difference was significant ($p<.01$).

The association in relation to gang membership status and ever having been in a gang or considering their group of friends to be a gang was not statistically significant. 33 young people were classified, using the operational definition, as being a gang member. Despite this only 49% of these considered that their group of friends were a gang and 56% reported having ever been in a gang. Of the 20 non-gang offenders, 39% considered themselves to be in a gang despite not meeting the operational criteria and 1 of the 3 young people who denied any offending considered himself to be a gang member.

Gang members were more likely to be serious, frequent and frequent serious offenders with only one young person reporting that he had not committed a serious offence and two reporting not having frequently committed serious offences. The associations with gang membership status were all statistically significant ($p<.001$). In the table the percentages do not add up to 100% as some respondents will be in more than one category. For example, a respondent who is in the frequent offending category may also be in the serious offending category. That respondent will therefore also appear in the frequent serious offender category. The percentages represent the number of respondents in a category as a percentage of total respondents to the question.

Most young people in the YOI sample were either White British (33%) or Black British (19%). Other self-defined ethnicities were aggregated into categories and an additional 11% were Black, 11% mixed race, 9% English and 7% other.

The young people were asked who they lived with prior to being in custody. 68% lived with at least one parent and 7% had a step parent. 44% lived with a male family member (including brothers) but only 21% lived with their father. Two young people had been in foster care and 11 indicated that they lived alone, 3 of which were in supported housing.

The results in relation to the sale of illegal drugs alone or as a group are detailed in table 16 along with substance use. The general population all denied use of substances and selling drugs. 88% of the gang members sold illegal drugs on their own at least once and 61% more than 10 times in the last year. 93% sold drugs as a group at least once in the last year and 68% reported doing this often. This was in contrast to non-gang offenders where 65% had not sold illegal drugs on their own and 50% had not done this as a group, with only 7% reporting that they had done this often.

Gang members reported more use of tobacco, alcohol, marijuana and other illegal substance than non-gang offenders. 40% of non-gang offenders and 12% of gang members had not used marijuana; 90% of non-gang offenders and 70% of gang members had not used any other illegal drugs.

Table 16 Selling illegal substances and substance use, YOI sample

	Frequency	Non-gang offender	Gang member	Total
Sold illegal drugs alone	0	13 (65)	4 (12.1)	21 (36.8)
	1-2	3 (15)	4 (12.1)	7 (12.3)
	3-5	1 (5)	4 (12.1)	5 (8.8)
	6-10	0 (0)	1 (3)	1 (1.8)
	more than 10	3 (15)	20 (60.6)	23 (40.4)
Sell illegal drugs in a group	never	7 (50)	2 (6.5)	10 (21.7)
	rarely	4 (28.6)	4 (12.9)	8 (17.4)
	sometimes	2 (14.3)	4 (12.9)	6 (13.0)
	often	1 (7.1)	21 (67.7)	22 (47.8)
Tobacco	0	9 (45)	5 (15.2)	18 (31.6)
	1-2	2 (10)	2 (6.1)	4 (7)
	3-5	0 (0)	2 (6.1)	2 (3.5)
	6-10	1 (5)	0 (0)	1 (1.8)
	more than 10	8 (40)	24 (72.7)	32 (56.1)
Alcohol	0	9 (45)	10 (30.3)	22 (38.6)
	1-2	3 (15)	3 (9.1)	7 (12.3)
	3-5	2 (10)	7 (21.2)	9 (15.8)
	6-10	1 (5)	2 (6.1)	3 (5.3)
	more than 10	5 (25)	11 (33.3)	16 (28.1)
Marijuana	0	8 (40)	4 (12.1)	16 (28.1)
	1-2	4 (20)	3 (9.1)	7 (12.3)
	3-5	0 (0)	1 (3)	1 (1.8)
	6-10	1 (5)	0 (0)	1 (1.8)
	more than 10	7 (35)	25 (75.8)	32 (56.1)
Other illegal drugs	0	18 (90)	23 (69.7)	45 (78.9)
	1-2	1 (5)	4 (12.1)	5 (8.8)
	3-5	1 (5)	1 (3)	2 (3.5)
	6-10	0 (0)	2 (6.1)	2 (3.5)
	more than 10	0 (0)	3 (9.1)	3 (5.3)

4.3.2. *Schools*

The responses from the two schools have been aggregated and are reported together in table 17. All 449 completed the majority of the questionnaire allowing them to be categorised into one of three categories when the offending behaviour and the Eurogang definition of a gang was applied.

The most recent OFSTED reports indicate that the higher ratio of males to females is similar to the ratio of males to females in the population of both schools.

Table 17 Demographic characteristics of the schools' sample

Schools A&B		General population n(%)	Non-gang offender n(%)	Gang member n(%)	Total n(%)
Respondents		134 (29.8)	239 (53.2)	73 (16.3)	449 (100)
Gender	Missing	0 (0)	0 (0)	0 (0)	0 (0)
	Female	68 (50.7)	86 (36.0)	20 (27.4)	174 (39)
	Male	66 (49.3)	153 (64.0)	53 (72.6)	272 (61.0)
Year group	Missing	0 (0)	0 (0)	0 (0)	0 (0)
	7	38 (28.4)	42 (17.6)	18 (24.7)	98 (22.0)
	8	9 (6.7)	18 (7.5)	6 (8.2)	33 (7.4)
	9	24 (17.9)	87 (36.4)	20 (27.4)	131 (29.4)
	10	52 (38.8)	78 (32.6)	23 (31.5)	153 (34.3)
	11	11 (8.2)	14 (5.9)	6 (8.2)	31 (7.0)
Age	Missing	0 (0)	0 (0)	0 (0)	0 (0)
	11	19 (14.2)	22 (9.2)	7 (9.6)	48 (10.8)
	12	27 (20.1)	30 (12.6)	15 (20.5)	72 (16.1)
	13	6 (4.5)	24 (10.0)	5 (6.8)	35 (7.8)
	14	31 (23.1)	84 (35.1)	25 (34.2)	140 (31.4)
	15	44 (32.8)	73 (30.5)	17 (23.3)	134 (30.0)
	16	5 (3.7)	6 (2.5)	4 (5.5)	15 (3.4)
	17	2 (1.5)	0 (0)	0 (0)	2 (0.4)
Victim of crime	Missing	0 (0)	0 (0)	0 (0)	0 (0)
	No	82 (62.2)	68 (28.5)	24 (32.9)	174 (39.0)
	Any crime	52 (38.8)	171 (71.5)	49 (67.1)	272 (61.0)
	Violent crime	32 (23.9)	147 (61.5)	46 (63)	225 (50.4)
Gangs in neighbour-hood	Missing	26 (19.4)	21 (8.8)	4 (5.5)	55 (12.6)
	Yes	64 (47.6)	145 (60.7)	60 (82.2)	269 (59.9)
	No	6 (4.5)	9 (3.8)	3 (4.1)	18 (4.0)
	Don't know	38 (28.4)	60 (25.1)	6 (8.2)	104 (23.2)
Group membership	Ever been in a gang, missing	27 (20.1)	24 (10.0)	5 (6.8)	56 (12.6)
	Ever been in a gang, yes	1 (7.7)	11 (4.6)	18 (24.7)	30 (6.7)
	Is it considered a gang, missing	27 (20.1)	23 (9.6)	3 (4.1)	53 (11.9)
	Is it considered a gang , yes	1 (7.7)	15 (6.3)	22 (30.1)	38 (8.5)

Offending behaviour	Frequent	0 (0)	120 (50.2)	53 (72.6)	173 (38.8)
	Serious	0 (0)	167 (69.9)	62 (84.9)	229 (51.3)
	Frequent serious	0 (0)	103 (43.1)	53 (72.6)	156 (35.0)

66% of the offenders (both non-gang offenders and gang members) were male. The Youth Justice Board (2013) reported that, in 2011/12, 80% of the young people known to the YOTs in England and Wales were male. The 2010/11 details borough level information and indicates that 89% of convicted offenders in the borough where the research took place were male.

There was a significant relationship between gang status and young people's experience of being a victim of crime or of violent crime differed significantly ($p<.001$). This appears to be in relation to experience of offenders, both gang and non-gang, when compared to the general population. Overall 61% of respondents reported being a victim of crime and approximately half reported having been a victim of violent crime.

Greater insight was gained when the sample was divided into the general population, non-gang offenders and gang members and the data showed that, for the general population 62% had not been a victim of crime and 76% had not been a victim of violent crime. This pattern was present for both schools when considered separately. Gang members were slightly less likely than non-gang offenders to be a victim of crime overall but slightly more likely to be a victim of violent crime.

Table 17 and figure 5 and 6 shows the year group and age distribution of the school sample revealing that there is confounding by School and Year Group. The distribution, in terms of age is unusual for the offending population. When the non-gang offenders and gang members are combined to form an offenders category, the distribution is very different to that which the Youth Justice Board (2013) reports. This is set out in table 18.

Figure 5 Distribution by year group, school's sample

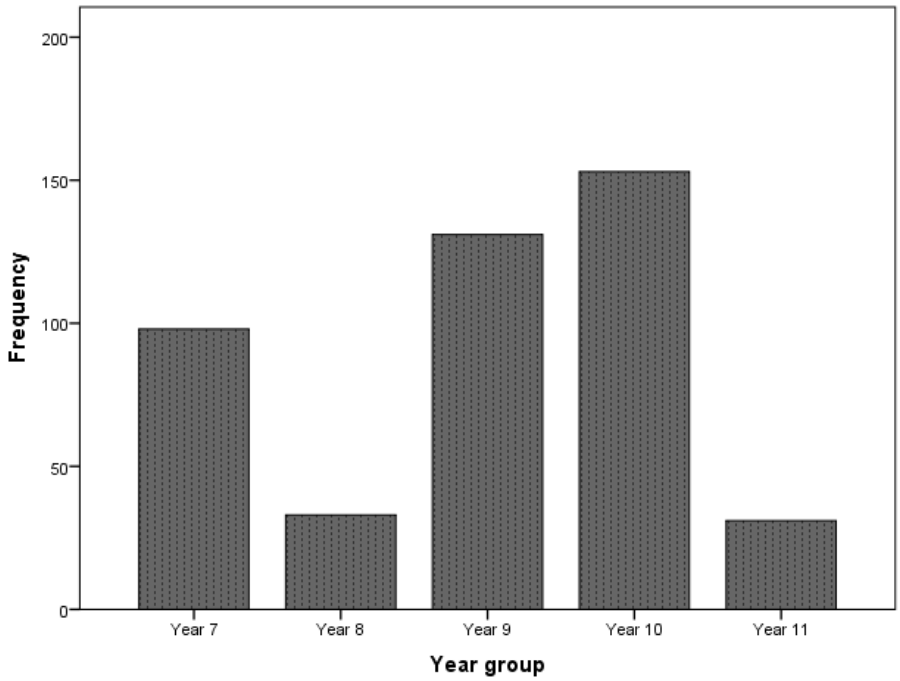
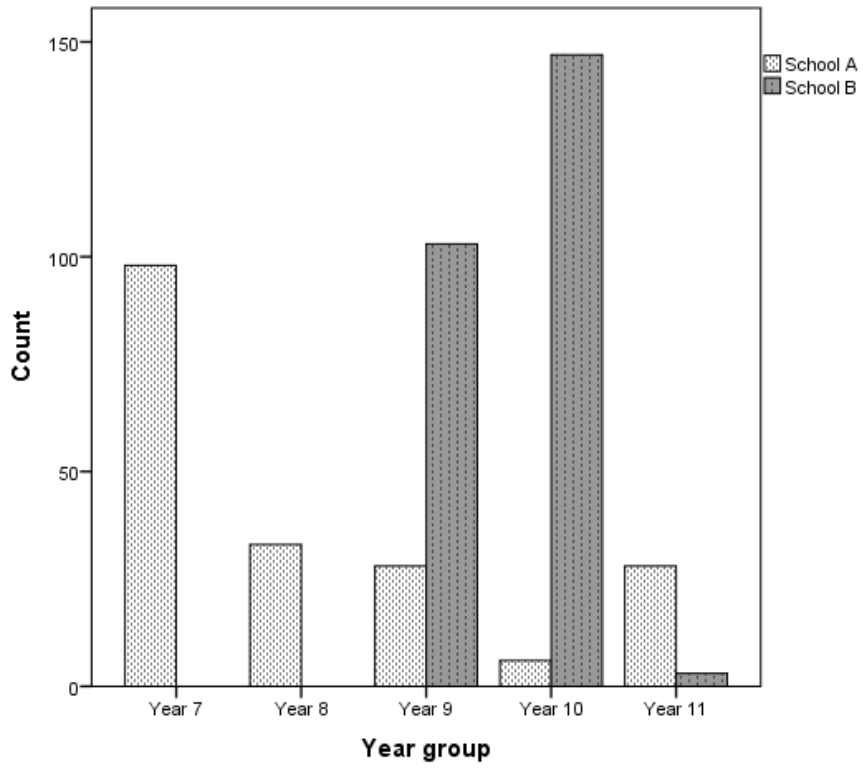


Figure 6 Distribution by year group and school.



Since it was possible that young people could respond differently according to the School they attend and year group these two variables were included as covariates in the regressions models. Age was omitted because for the vast majority of young people Year Group is determined by pupils' age (i.e. linear dependence). The only exceptions would be when a young person is held back a year or is moved up a year based on ability. The schools reported that this was not the case for the young people who completed the questionnaire.

Table 18 Proportion of offenders aged 10-16

	10-14	15	16
% of young people who are offenders in present study	64	32	4
% seen by YOT in 2011/12 in the research borough	29	31	43

The respondents were asked if they considered that there were gangs in their neighbourhood, whether their group was a gang and whether they had ever been in a gang. School A had only 4 with missing data whereas School B had over 50. It is not clear why this might be but could be due to School A completing the questionnaire in paper form. In the electronic version intelligent programming was used. If the respondent indicated that they did not have an informal group of friends, questions were skipped. In the paper version this was not done automatically and the young people tended to answer the question even when they indicated that they did not have an informal group of friends and were instructed to go to another question.

48% of the general population thought there were gangs in their neighbourhood whereas 82% of those who met the operational definition for a gang member and 60% of non-gang offenders thought there were. These percentages differed significantly between the three gang member status samples (Fisher Exact Test p=.001).

Table 19 Names given to the young peoples' informal groups

	General population n (%)	Non-gang offender n (%)	Gang member n (%)
Friends	25 (54.3)	66 (48.2)	18 (41.9)
Batch/block/band	2 (4.3)	10 (7.3)	4 (9.3)
Crew/posse	4 (8.7)	13 (9.5)	3 (7.0)
My girls/boys	0 (0)	7 (5.1)	1 (2.3)
Group/circle/set	6 (13.0)	13 (9.5)	3(7.0)
Team	3 (6.5)	8 (5.8)	1 (2.3)
Specific gang name	3 (6.5)	11 (8.0)	7 (16.3)
Dons	2 (4.3)	1 (0.7)	0 (0)
Squadron	0 (0)	1 (0.7)	1 (2.3)
Niggers	0 (0)	1 (0.7)	0 (0)
Bizzy	0 (0)	1 (0.7)	0 (0)
Skaters	0 (0)	0 (0)	1 (2.3)
Firm/guild	1 (2.2)	2 (1.5)	3 (7.0)
Whores and bitches	0 (0)	1 (0.7)	0 (0)
Racist group	0 (0)	0 (0)	1 (2.3)
Co-dees	0 (0)	1 (0.7)	0 (0)
Accomplishments	0 (0)	1 (0.7)	0 (0)
Total	46	137	43

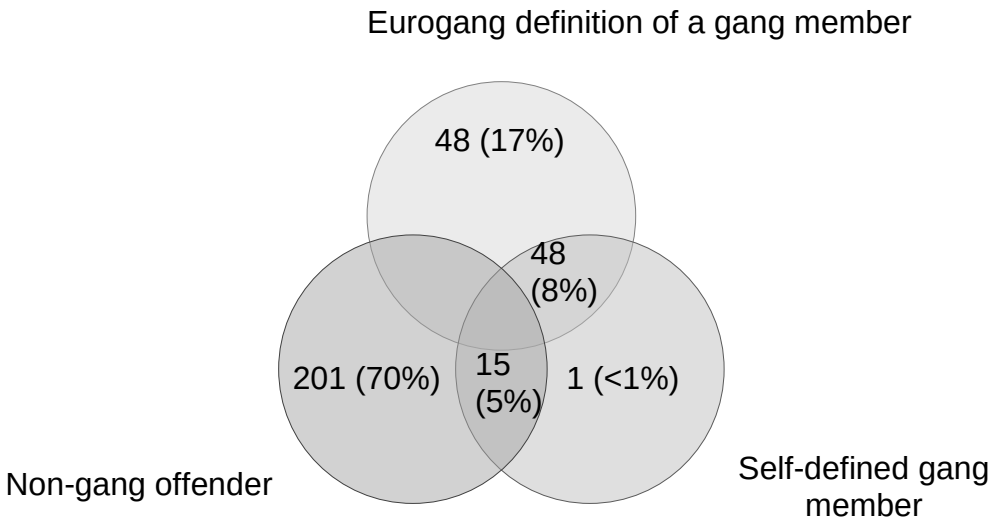
The term gang would not appear to be a word the respondents used to describe their groups. Friends was the most popular term across all groups as shown in table 19 as only 20% of gang members and 6% of non-gang offenders would describe their own group of friends as a gang when the missing responses were included. When the questionnaires with missing fields corresponding to these variables were excluded the association between those that self-reported as being a gang member and those that were gang members using the Eurogang definition was statistically significant ($p<.001$). This is shown in table 20.

Table 20 Comparing self-defined gang members with the Eurogang defined gang members (excluding the missing questionnaires)

	Is the group considered a gang?	
	Yes	No
General population	1 (0.9)	106 (99.1)
Non-gang offender	15 (6.9)	201 (93.1)
Gang member	22 (31.4)	48 (68.6)

Pearson χ^2 p<.001

Figure 7 Proportion of offenders who self-defined gang members, Eurogang and non-gang offenders, school sample



All the young people that reported offending behaviour or gang membership were considered as a whole group. This is illustrated in figure 6. 25% were categorised as gang members using the Eurogang definition but only 8% both self-defined and met the Eurogang definition. When combined those that either said they were a gang member and/or were identified using the Eurogang definition 30% of the offending sample were gang members. 75% were offending but did not meet the Eurogang criteria although 5% reported that they were gang members. One person did not report any offending behaviour but did consider them self to be a gang member.

Pearson χ^2 test was used to test the difference between the severity and frequency of offences by gang and non-gang members. Gang members reported more frequent ($p=.001$), serious ($p=.011$) and frequent serious offences ($p<.001$) than non-gang offenders. Every gang member that reported frequent offences (73%) also reported serious offences. There were fewer who had committed a serious offence but had not offended frequently (12%).

97% lived with at least one parent and 5% (23) with a step-parent. 58% lived with their father and 74% with siblings. 79% lived with a male relative, including brothers. Only 2 young people were in foster care and 5 reported that they lived alone.

These young people were from a wide variety of ethnic and cultural backgrounds and in response to the open question about this 410 responded and 77 different definitions were given. 70 were of mixed or multiple heritages. There were representatives from across Europe, Africa, Asia, the Middle East, the Caribbean and South America. 155 did not mention colour in their cultural identity, 136 said they were black and 127 that they were white but only one said they were black and white. A full data set for the ethnicity of the schools sample can be found in appendix 8.

Selling illegal substances either alone or as part of group behaviour and the use of substances is represented in table 21. This shows that the majority of

young people in the sample do not admit to the use of illegal substances regardless of their gang membership and offending behaviour. The numbers are too small to apply inferential statistics but descriptive statistics show that the proportion of gang members that admit to selling illegal substances alone (19%) and as a group (35%) is higher than non-gang offenders (5% and 2% respectively).

Table 21 Illegal drug selling and substance misuse, school sample

	Frequency	General population	Non-gang offender	Gang member	total
		n (%)	n (%)	n (%)	n (%)
Sold illegal drugs alone	0	119 (100)	226 (95)	59 (80.8)	404 (94)
	1-2	0 (0)	3 (1.3)	5 (6.8)	8 (1.9)
	3-5	0 (0)	2 (0.8)	4 (5.5)	6 (1.4)
	6-10	0 (0)	1 (0.4)	0 (0)	1 (0.2)
	more than 10	0 (0)	6 (2.5)	5 (6.8)	11 (2.6)
Sell illegal drugs as part of group	never	86 (100)	175 (97.8)	45 (65.2)	306 (91.6)
	rarely	0 (0)	2 (1.1)	10 (14.5)	12 (3.6)
	sometimes	0 (0)	1 (0.6)	4 (5.8)	5 (1.5)
	often	0 (0)	1 (0.6)	10 (14.5)	11 (3.3)
Tobacco	0	116 (97.5)	204 (86.4)	50 (68.5)	370 (86.4)
	1-2	1 (0.8)	20 (8.5)	7 (9.6)	28 (6.5)
	3-5	1 (0.8)	3 (1.3)	7 (9.6)	11 (2.6)
	6-10	1 (0.8)	2 (0.8)	2 (2.7)	5 (1.2)
	more than 10	0 (0)	7 (3.0)	7 (9.6)	14 (3.3)
Alcohol	0	107 (98.9)	148 (62.4)	31 (42.5)	286 (66.7)
	1-2	6 (5.0)	39 (16.5)	18 (24.7)	63 (14.7)
	3-5	3 (2.5)	23 (9.7)	5 (6.8)	12 (7.2)
	6-10	0 (0)	12 (5.1)	7 (9.6)	19 (4.4)
	more than 10	3 (2.5)	15 (6.3)	12 (16.4)	30 (7.0)
Marijuana	0	117 (98.3)	221 (93.6)	56 (77.8)	394 (92.3)
	1-2	0 (0)	3 (1.3)	2 (2.8)	5 (1.2)
	3-5	0 (0)	4 (1.7)	6 (8.3)	10 (2.3)
	6-10	0 (0)	0 (0)	1 (1.4)	1 (0.2)
	more than 10	2 (1.7)	8 (3.4)	7 (9.7)	17 (4)
Other illegal drugs	0	119 (99.2)	224 (95.7)	64 (88.9)	407 (95.5)
	1-2	1 (0.8)	3 (1.3)	2 (2.8)	6 (1.4)
	3-5	0 (0)	0 (0)	2 (2.8)	2 (0.5)
	6-10	0 (0)	0 (0)	1 (1.4)	1 (0.2)
	more than 10	0 (0)	7 (3)	3 (4.2)	10 (2.3)

4.4. Mental health difficulties in the Young Offenders Institution

Fifty four young people completed the SDQ part of the survey in the YOI. This represented 95% of those that returned the questionnaire and 42% of the total population of the institution. The results for each of the domains are detailed in table 22. The data was categorised into clinically significant ranges and distributions were compared using the Fisher's Exact Test. The results are represented in table 23.

The total difficulties domain score indicated that two young people received scores that placed them in the borderline category whereas everyone else was classified as in the abnormal range. The gang members reported more difficulties in every domain, apart from peer relations, than non-gang offenders. The proportions falling into mental health categories did not differ significantly between the three groups nor was there a difference specifically between non-gang and gang members.

Table 22 Mental health difficulties, YOI

	General population			Non-gang offender			Gang member			Total		
	N	Mean	Sd	N	Mean	Sd	N	Mean	Sd	N	Mean	Sd
Emotional	4	5.3	1	18	7.1	2.2	32	7.6	2.3	54	7.3	2.3
Conduct	4	5.0	0	18	6.6	2.0	32	8.3	2.3	54	7.4	2.3
Inattention and hyperactivity	4	5.5	1	18	6.2	2.0	32	6.9	1.8	54	6.6	1.8
Peer problems	4	5.8	2	18	6.1	1.8	32	5.9	1.6	54	6.0	1.7
Pro-social behaviour	4	3.0	5	19	4.8	2.5	32	5.3	2.4	55	5.0	2.7
Total difficulties	4	21.5	2	18	25.9	5.4	32	28.7	5.3	54	27.2	5.5
Impact	0	0	0	10	3.3	2.0	22	4.3	2.3	32	4.0	2.2

Table 23 Categorical data, YOI sample

Mental health variable	Missing	Mental Health category	General Pop n(%)	Non-gang offender n(%)	Gang member n(%)	Total n(%)	Fisher Exact Test
Emotional problems	3	Normal	3 (75.0)	5 (27.8)	8 (25.0)	16 (29.6)	p=.13
		Borderline	1 (25.0)	5 (27.8)	8 (25.0)	11 (20.4)	
		Abnormal	0 (0)	8 (44.4)	19 (59.4)	27 (50.0)	
Conduct problems	3	Normal	0 (0)	0 (0)	0 (0)	0 (0)	p=.16
		Borderline	0 (0)	2 (11.1)	0 (0)	2 (3.7)	
		Abnormal	4 (100)	16 (88.9)	32 (100)	52 (96.3)	
Inattention and hyperactivity	3	Normal	3 (75.0)	8 (44.4)	8 (25.0)	19 (35.2)	p=.25
		Borderline	0 (0)	4 (22.2)	6 (18.8)	10 (18.5)	
		Abnormal	1 (25.0)	6 (33.3)	18 (56.3)	25 (46.3)	
Peer problems	3	Normal	0 (0)	0 (0)	0 (0)	0 (0)	p=.70
		Borderline	3 (75.0)	10 (55.6)	16 (50.0)	29 (53.7)	
		Abnormal	1 (25.0)	8 (44.4)	16 (50.0)	25 (46.3)	
Pro-social behaviour	2	Normal	1 (25.0)	7 (36.8)	16 (50.0)	24 (43.6)	p=.49
		Borderline	0 (0)	5 (26.3)	7 (21.9)	12 (21.8)	
		Abnormal	3 (75.0)	7 (36.8)	9 (28.1)	19 (34.5)	
Total difficulties	3	Normal	0 (0)	0 (0)	0 (0)	0 (0)	p=.25
		Borderline	0 (0)	2 (11.1)	0 (0)	2 (3.7)	
		Abnormal	4 (100)	16 (88.9)	32 (100)	52 (96.3)	

4.5. Mental health difficulties in the schools

The number of young people who responded to the mental health difficulties domain was similar (range 357-363, 18-19% of the total population, 80-81% of returned questionnaires). The impact supplement of the SDQ was only completed if the respondent indicated that they believed that their difficulties impacted on their life resulting in a much smaller number of questionnaires completed (n=159, 8% of the total population, 36% of returned questionnaires).

The distribution of the data for the school samples are detailed in table 24. The data is positively skewed for some mental health variables in the general population and for conduct disorder for the total population. This was not found for either offender groups. Also of note are the kurtosis values for conduct problems and peer problems in the general population which indicates that the data is concentrated around the mean.

Table 24 Distribution, schools' sample

	General population			Non-gang offender			Gang member			Total		
	N (%)	Skew-ness	Kurtosis	N (%)	Skew-ness	Kurtosis	N (%)	Skew-ness	Kurtosis	N (%)	Skew-ness	Kurtosis
Emotional difficulties	104 (28.7)	0.73	-0.13	197 (54.3)	0.34	-0.43	62 (17.1)	0.22	-0.31	363 (100)	0.42	-0.43
Conduct problems	104 (29.0)	1.67	3.46	194 (54.0)	0.98	1.21	61 (16.9)	0.45	-0.23	359 (100)	1	0.88
Inattention and hyperactivity	104 (28.9)	1.06	1.96	195 (54.2)	0.47	0.02	61 (16.9)	0.07	-0.08	360 (100)	0.52	0.03
Peer problems	104 (28.9)	1.43	2.45	196 (54.4)	0.64	-0.21	60 (16.7)	0.30	-0.98	360 (100)	0.80	0.23
Pro-social behaviour	105 (28.9)	-0.22	-0.59	197 (54.3)	-0.43	0	61 (16.8)	-0.34	-0.14	363 (100)	-0.49	0.14
Total difficulties	104 (29.1)	1.24	1.70	193 (54.1)	0.46	0.12	60 (16.8)	0.41	-0.23	357 (100)	0.58	0.03
Impact	30 (18.9)	1.07	0.74	81 (50.9)	0.50	-0.57	48 (30.2)	0.67	-0.1	159 (100)	0.68	-0.02

The mean and confidence intervals for each mental health variable are shown in table 25 before adjustment for School and Year Group. For inattention and hyperactivity, peer problems, pro-social behaviour and the impact score, differences between the three gang membership status groups were tested for statistical difference using ANCOVA.

Across all the mental health variables the means showed that gang members had more difficulties than non-gang offenders, who had more difficulties than the general population. To ascertain whether this variability was due to chance these means were tested for statistical difference using ANCOVA with School and Year Group as covariates. Levene's test for equality of variance was not statistically significant for inattention and hyperactivity (p=.463), peer problems (p=.790), pro-social behaviour (p=.240) and impact (p=.730) so the group variances were homogeneous, and the assumptions for ANCOVA were met.

The Levene's test was statistically significant for emotional difficulties (p<.001), conduct problems (p<.001), total difficulties (p=.001) indicating that the assumptions for ANCOVA were not met. Ordinal regression analyses was therefore considered with the aim of determining whether the odds of having any of these difficulties differed significantly between the groups. The dependent variable, the mental health difficulty, was categorised into normal, borderline and abnormal, using the parameters developed for the tool that corresponded with clinically significant scores.

In the following sections (4.5.1 – 4.5.4) the findings are presented in more detail starting with mental health variables that met the assumptions required for ANCOVA, those where ordinal regression was used as an alternative and finally conduct disorder where some limited statistical testing was possible.

Table 25 Mean and confidence interval, schools' sample

	General population			Non-gang offenders			Gang members		
Mental health variable	Mean	95% confidence interval		Mean	95% confidence interval		Mean	95% confidence interval	
		Lower	Upper		Lower	Upper		Lower	Upper
Emotional difficulties	4.73	4.28	5.18	5.52	5.17	5.87	5.85	5.18	6.52
Conduct problems	2.79	2.39	3.19	4.23	3.87	4.59	5.43	4.69	6.16
Impulsivity and hyperactivity	6.07	4.68	5.47	6.56	5.63	6.27	7.24	6.60	7.73
Peer problems	4.00	2.94	3.75	4.46	3.71	4.35	4.00	3.39	4.38
Pro-social behaviour	5.57	4.95	6.18	5.61	5.09	6.14	4.22	3.53	4.91
Total difficulties	15.94	14.72	17.17	19.71	18.69	20.73	22.30	20.60	24.00
Impact	2.53	1.50	3.57	3.14	2.67	3.60	3.83	3.07	4.58

4.5.1. *Inattention and hyperactivity, peer problems, pro-social behaviour and impact*

The adjusted means and confidence intervals are shown in table 26. The F statistic from the ANCOVA was used to test the effect of gang membership status (gang, non-gang offender and general population) upon inattention and hyperactivity, peer problems, pro-social behaviour and impact (Table 27). Further testing between pairs of groups was conducted and these are shown in Table 27.

For inattention and hyperactivity the covariates were not significantly related to this variable. For School, $F\ (1, 352) = 1.89$, $p=.171$, $\eta^2 = .005$ and year group, $F\ (4, 352) = 1.36$, $p=.249$, $\eta^2 = .015$. This was in contrast to pro-social behaviour where for school the results were $F\ (1, 355) = 4.65$, $p=.032$, $\eta^2 = .013$ and year group, $F\ (4, 355) = 12.19$, $p<.001$, $\eta^2 = .121$

Table 26 Estimated marginal mean and confidence interval, schools' sample

	General population			Non-gang offenders			Gang members		
Mental health variable	Estimated marginal mean	95% confidence interval		Estimated marginal mean	95% confidence interval		Estimated marginal mean	95% confidence interval	
		Lower	Upper		Lower	Upper		Lower	Upper
Impulsivity and hyperactivity	5	4.53	5.46	5.8	5.44	6.16	7.1	6.56	7.71
Peer problems	3.73	3.31	4.14	3.97	3.65	4.29	4.14	3.61	4.66
Pro-social behaviour	6.02	5.56	6.49	5.44	5.09	5.78	4.37	3.81	4.93
Impact	2.6	1.65	3.54	3.17	2.57	3.78	3.8	3.03	4.57

Table 27 Analysis of covariance (ANCOVA) results, schools' sample

Mental health variable	Gang and non-gang offenders				General population and gang members				Non-gang offenders and general population				F test	Sig	Partial η²
	Mean diff	95% confidence interval		Sig	Mean diff	95% confidence interval		Sig	Mean diff	95% confidence interval		Sig			
		Low	Upp			Low	Upp			Low	Upp				
Inattention and hyperactivity	1.25	0.51	1.99	p<.001***	2.12	1.31	2.97	p<.001***	0.87	0.26	1.48	p=.003**	F(2, 352)=19.00	p<.001***	0.1
Peer problems	0.14	-0.53	0.81	p<.28	0.54	0.2	1.27	p=.312	0.67	0.12	1.22	p=.012*	F(2, 352)=0.96	P=.39	0.01
Pro-social problems	1.14	0.42	1.87	p=.001**	1.53	0.73	2.32	p<.001***	0.39	-0.21	0.98	p=.279	F(2, 355)=11.78	p<.001***	0.62
Impact	0.63	-0.4	1.66	p=.32	1.2	-0.12	2.51	p=.083	0.57	-0.64	1.77	p=.511	F(2, 151)=2.44	P=.09	0.31

[p<.05 *; p<.01 **; p<.001 ***]

Those pairs of groups where findings differed significantly are summarised as follows for

- Inattention and hyperactivity
    - Gang members had a significantly higher level of difficulties than non-gang members (p<.001).
    - Gang members had a significantly higher level of difficulties than the general population[3] (p<.001)
    - Non-gang members had a significantly higher level of difficulties than the general population (p=.003)
    - Partial η^2 indicates that the proportion of variance that is not explained by other variables. In this case proportion of the variance in inattention and hyperactivity that is not explained by school and year group is 0.1
- Pro-social behaviour
    - Gang members had a significantly lower level of pro-social behaviours than non-gang offenders (p=.001)
    - Gang members had a significantly lower level of pro-social behaviours than the general population (p<.001)
    - The proportion of the variance in the pro-social behaviours that is not explained by school and year group is 0.62

4.5.2. *Emotional difficulties and total difficulties*

The ordinal regression model provided a statistically significant fit to the data for emotional and total difficulties (table 28). This indicates the final model gives a significant improvement over the baseline intercept-only model.

In ordinal regression, a goodness of fit test that can be used is Nagelkerke's pseudo R-square. The results of this test are presented in table 29 where the Nagelkerke's pseudo R-square for emotional difficulties is 0.191 and 0.396 for total difficulties. These indicated that the overall model is a good fit for total

[3] General population as defined in section 3.5

difficulties the model only accounts for 40% of the variability whereas, for emotional difficulties, accounting for 19% of the variability.

The model revealed a significant difference between the two schools ($p<.001$), in relation to both the emotional difficulties and the total difficulties score but only a significant difference in relation to total difficulties for the year 10 pupils ($p=.001$).

Gang members had significantly more

- Emotional difficulties than the general population ($p=.002$) but not non-gang offenders ($p=.053$).
- Total difficulties than both the general population ($p<.001$) and the non-gang offenders ($p=.001$).

In addition non-gang offenders had significantly more total difficulties than the general population ($p=.001$) but non-gang offenders did not have significantly more than the general population.

Table 28 Model fit test, schools' sample

		-2 Log Likelihood	Pearson χ^2	Df	Sig.	Nagelkerke
Emotional difficulties	Intercept Only	203.615				.191
	Final	138.172	65.442	7	.000	
Total difficulties	Intercept Only	288.709				.396
	Final	135.384	153.325	7	.000	

Table 29 Comparison between gang membership categories, schools' sample. [p<.05 *; p<.01 **; p<.001 ***]

		B	SE(β)	Wald χ^2	P	$\beta_{L95\%}$	$\beta_{U95\%}$	OR	$OR_{L95\%}$	$OR_{U95\%}$
Emotional difficulties	General population vs. Gang member	-1.013	.328	9.527	.002**	-1.656	-.370	0.363	0.191	0.691
	Non-gang offender vs. Gang member	-.561	.290	3.731	.053	-1.130	.008	0.571	0.323	1.008
	General population vs. Non-gang offender	-.452	.258	3.061	.080	-.959	.054	0.636	0.383	1.056
Total difficulties	General population vs. Gang member	-1.978	.351	31.761	.000***	-2.666	-1.290	0.138	0.070	0.275
	Non-gang offender vs. Gang member	-1.103	.318	12.012	.001**	-1.727	-.479	0.332	0.178	0.619
	General population vs. Non-gang offender	-.875	.257	11.595	.001**	-1.379	-.371	0.417	0.252	0.690

4.5.3. *Conduct problems*

The test of parallel lines was statistically significant for the conduct difficulties invalidating the assumption underpinning the ordinal regression. Ordinal regression assumes that parameter estimates remain consistent for each level of the dependent variable which was not the case here. A pragmatic decision was taken to compare differences between gang membership status and conduct problems using the Pearson χ^2 test which revealed that there was a statistically significant association between these two variables ($p<.001$) (table 30).

Table 30 Conduct problems, schools' sample

	General population N (%)	Non-gang offender N (%)	Gang member N (%)	Total N (%)
Normal	77 (70)	88 (45.4)	17 (27.9)	182 (50.7)
Borderline	10 (9.6)	24 (12.4)	8 (13.1)	42 (11.7)
Abnormal	17 (16.3)	82 (42.3)	36 (59.0)	135 (37.6)

4.5.4. *Comorbidity*

The SDQ is primarily designed to screen for emotional difficulties, conduct problems and inattention and hyperactivity. All the permutations of emotional, conduct and inattention and hyperactivity by group membership status are given in table 31. Descriptive data alone is detailed as the numbers were very small. Every combination of normal, borderline and abnormal category for each of the three variables is detailed by gang member status.

The 359 with a score for all three mental health difficulties were included in this cross tabulation. Those respondents who did not answer enough questions to generate a valid score in all three domains were not included.

The data revealed that, when considering only emotional difficulties, conduct problems and inattention and hyperactivity only 3% of gang members scored within the normal range for all three domains. This was in sharp contrast to 23% of non-gang offenders and 33% of the general population.

Six non-gang offenders were in the group with abnormal emotional difficulties and normal conduct problems. Five of these also scored abnormally for inattention and hyperactivity. There were two gang members who similarly scored in the abnormal range for emotional difficulties but the normal range for conduct problems, neither of these scored in the normal range for inattention and hyperactivity. The results for the offender categories are in contrast to the general population where 11 young people were in the abnormal emotional difficulties and normal conduct problems group of which 8 scored in the normal range for inattention and hyperactivity.

As ADHD and psychopathy are mentioned in a number of studies as being co-morbid in gang members, pro-social and hyperactivity and inattention were also considered. The results are presented in table 31. The sample size in each category was small therefore Fisher's exact test was used to test the association. Significant associations were found borderline hyperactivity ($p<.05$) and when borderline and abnormal hyperactivity were combined ($p<.05$).

Table 31 Co-morbid emotional difficulties, conduct problems and inattention and hyperactivity, schools' sample.

Emotional	Conduct	Inattention and hyperactivity	General population N (%)	Non-gang offenders N (%)	Gang members N (%)	Total N (%)
Normal	Normal	Normal	30 (33.0)	46 (22.7)	2 (3.1)	78 (21.7)
		Borderline	9 (9.9)	12 (5.9)	6 (9.2)	27 (7.5)
		Abnormal	6 (6.6)	15 (7.4)	4 (6.2)	25 (7.0)
	Borderline	Normal	4 (4.4)	3 (1.5)	0 (0)	7 (1.9)
		Borderline	3 (3.3)	0 (0)	0 (0)	3 (0.8)
		Abnormal	2 (2.2)	5 (2.5)	1 (1.5)	8 (2.2)
	Abnormal	Normal	3 (3.3)	9 (4.4)	4 (6.2)	16 (4.5)
		Borderline	0 (0)	2 (1.0)	2 (3.1)	4 (1.1)
		Abnormal	0 (0)	6 (3.0)	5 (7.7)	11 (3.1)
Borderline	Normal	Normal	4 (4.4)	4 (2.0)	0 (0)	8 (2.2)
		Borderline	1 (1.1)	3 (1.5)	0 (0)	4 (1.1)
		Abnormal	3 (3.3)	2 (1.0)	3 (4.6)	8 (2.2)
	Borderline	Normal	0 (0)	1 (0.4)	1 (1.5)	2 (0.6)
		Borderline	0 (0)	3 (1.5)	0 (0)	3 (0.8)
		Abnormal	1 (1.1)	2 (1.0)	2 (3.1)	5 (1.4)
	Abnormal	Normal	2 (2.2)	8 (3.9)	1 (1.5)	11 (3.1)
		Borderline	0 (0)	2 (1.0)	2 (3.1)	4 (1.1)
		Abnormal	1 (1.1)	6 (3.0)	4 (6.2)	11 (3.1)
Abnormal	Normal	Normal	8 (8.8)	1 (0.4)	0 (0)	9 (2.5)
		Borderline	2 (2.2)	0 (0)	1 (1.5)	3 (0.8)
		Abnormal	1 (1.1)	5 (2.5)	1 (1.5)	7 (1.9)
	Borderline	Normal	0 (0)	5 (2.5)	0 (0)	5 (1.4)
		Borderline	0 (0)	5 (2.5)	4 (6.2)	9 (2.5)
		Abnormal	0 (0)	10 (4.9)	4 (6.2)	14 (3.9)
	Abnormal	Normal	3 (3.3)	14 (6.9)	1 (1.5)	18 (5.0)
		Borderline	3 (3.3)	11 (5.4)	5 (7.7)	19 (5.3)
		Abnormal	5 (5.5)	23 (11.3)	12 (18.5)	40 (11.1)

Table 32 Co-morbidity with inattention and hyperactivity and pro-social behaviours, schools' sample

Inattention and hyperactivity	Pro-social behaviours n=360									Fisher's exact test
	General population			Non-gang offender			Gang member			
	Normal n (%)	Border-line n (%)	Ab-normal n (%)	Normal n (%)	Border-line n (%)	Ab-normal n (%)	Normal n (%)	Border-line n (%)	Ab-normal n (%)	
Normal	40 (38.5)	12 (11.5)	15 (14.4)	41 (21.0)	19 (9.7)	31 (15.9)	5 (8.2)	0 (0)	4 (6.6)	p=.194
Borderline	5 (4.8)	7 (6.7)	6 (9.6)	17 (8.7)	2 (1.0)	15 (7.7)	4 (6.6)	2 (3.3)	10 (16.4)	p=.024*
Abnormal	9 (8.7)	4 (3.8)	6 (9.6)	31 (31.7)	14 (15.9)	25 (12.8)	9 (14.8)	5 (8.2)	22 (36.1)	p=.117
Borderline and abnormal	14 (13.5)	11 (10.6)	12 (11.5)	48 (24.6)	16 (7.7)	40 (20.5)	13 (21.3)	7 (11.5)	32 (52.5)	p=.012*

% is within gang status category.

4.6. **Offending behaviour**

The relationship between each mental health difficulty category and offence type (frequent, serious and frequent serious offences) reported were examined using the Pearson's χ^2 test. The statistically significant results are presented in table 32. Only the categories of non-gang offender and gang member were included in this calculation as, by definition, the general population are not offenders and their inclusion would skew the data. All of the significant findings for emotional difficulties and conduct problems have a $p<.05$.

There was a significant relationship for those that were in the normal range for emotional disorders and frequent and frequent serious offences and gang status. 75% of gang members who scored in the normal emotional difficulties range were involved in frequent and frequent serious offences. For non-gang offenders who scored in the normal emotional difficulties range 43% reported frequent and 36 % frequent serious offences. There was also a significant relationship for those in the borderline emotional range in relation to frequent serious offences.

The abnormal range for conduct problems generated a significant relationship between serious offending and gang status. 91% of gang members in the abnormal range for conduct problems reported serious offending. In the normal range, 65% of those that reported frequent and frequent serious offending were gang members whereas only 36% who reported frequent and 27% who reported frequent serious offences were non-gang offenders.

Within the sample of young people that scored within the borderline range for inattention and hyperactivity the results indicated that there was an association with frequent or frequent serious offending ($p<.01$). When the abnormal and borderline range were combined the significance increased to $p<.001$. 71% of combined borderline and abnormal group for inattention and hyperactivity who were gang members reported frequent serious offending.

Table 33 Offence type by mental health difficulty, schools' sample

Mental health difficulty		Offence type		Non-gang offender	Gang member
				n (%)	n (%)
Emotional difficulties	Normal*	Frequent	Yes	42 (42.9)	18 (75.0)
			No	56 (57.1)	6 (25.0)
	Normal*	Frequent Serious	Yes	35 (35.7)	18 (75.0)
			No	63 (64.3)	6 (25.0)
	Borderline*		Yes	7 (22.6)	8 (61.5)
			No	24 (77.4)	5 (38.5)
Conduct problems	Abnormal*	Serious	Yes	59 (72.0)	33 (91.7)
			No	23 (28.0)	3 (8.3)
	Normal*	Frequent	Yes	32 (36.4)	11 (64.7)
			No	56 (63.6)	6 (35.3)
	Normal*	Frequent Serious	Yes	24 (27.3)	11 (64.7)
			No	64 (72.7)	6 (35.3)
Inattention and hyperactivity	Borderline*	Frequent	Yes	16 (47.1)	13 (81.3)
			No	18 (52.9)	3 (18.3)
	Borderline*	Frequent Serious	Yes	13 (38.2)	13 (81.3)
			No	21 (61.8)	3 (18.8)
	Borderline & abnormal*		Yes	47 (45.2)	37 (71.2)
			No	57 (54.8)	15 (28.8)
Peer problems	Normal*	Serious	Yes	61 (64.2)	24 (85.7)
			No	34 (35.8)	4 (14.3)
	Normal**	Frequent	Yes	34 (35.8)	20 (71.4)
			No	61 (64.2)	8 (28.6)
	Normal***	Frequent Serious	Yes	26 (27.4)	20 (71.4)
			No	69 (72.6)	8 (28.6)
Pro-social behaviours	Abnormal**	Serious	Yes	41 (57.7)	31 (86.1)
			No	30 (42.30	5 (13.9)
	Abnormal*	Frequent	Yes	34 (47.9)	26 (72.2)
			No	37 (52.10	10 (27.8)
	Abnormal***	Frequent Serious	Yes	25 (35.2)	26 (72.2)
			No	46 (64.8)	10 (27.8)
Total	Abnormal**	Serious	Yes	70 (72.9)	32 (94.1)
			No	26 (27.1)	2 (5.9)
	Borderline*	Frequent	Yes	12 (36.4)	14 (70.0)
			No	21 (63.6)	6 (30.0)
	Borderline**	Frequent Serious	Yes	10 (30.3)	14 (70.0)
			No	23 (69.7)	6 (30.0)
	Abnormal***		Yes	50 (52.1)	24 (70.6)
			No	46 (47.9)	10 (29.4)

[* p<.05; ** p<.01; ***p<.001]

There were significant relationships within the group of young people who scored in the normal range for peer problems and abnormal range for pro-social behaviours for serious, frequent and frequent serious offending. The numbers and percentages are in table 33 which shows that gang members have a larger portion in the normal peer relationships range report offending and the same is show for gang members in the abnormal range for pro-social behaviour.

Finally, in the total difficulties abnormal and the borderline range groups, there was a significant relationship between all three offending types. 94% of gang members in the abnormal range reported serious offending.

4.7. **Gender**

The mental health difficulties were considered separately for males and females. The categories and statistical significance given by the Pearson χ^2 test are shown in table 34. These results indicate that there is a significant association between gang membership status and emotional difficulties for males ($p<.01$) but not for females. 70% of the males who were in the general populations scored in the normal range for emotional problems whereas 65% of the gang members scored in the combined borderline and abnormal range. For non-gang offenders there was a more even distribution.

There was also a significant association for conduct problems (male $p<.001$ and female $p<.05$), inattention and hyperactivity (male $p<.001$ and female $p<.01$) and total difficulties (male $p<.001$ and female $p<.01$) in both genders but the association was stronger for males than females. The percentages revealed that for these mental health variables, the larger percentages tended to be those in the general population that scored normal and gang members that scored as abnormal for these variables. The non-gang offenders were more evenly distributed.

There was not an association found for males in relation to peer problems or pro-social behaviour but there were for females ($p<.01$ and $p<.001$ respectively). For peer problems, 67% of the general population and 60% of the non-gang offenders scored in the normal range whereas 70% of the female gang members scored in the combined abnormal and borderline range. For pro-social behaviour 80% of the female gang member scored in the combined abnormal and borderline range, non-gang offenders were quite evenly distributed and 62% of the general population scored within the normal range.

Table 34 Gender, schools' sample

Mental health difficulty	Gender	Category	Gen pop	Non-gang offender	Non-gang offender
Emotional difficulties	Male**	Normal	39 (70.9)	73 (49.0)	26 (34.7)
		Borderline	8 (14.5)	25 (16.8)	13 (17.3)
		Abnormal	8 (14.5)	51 (34.2)	36 (48.0)
	Female	Normal	34 (63.0)	30 (45.5)	6 (30.0)
		Borderline	6 (11.1)	11 (16.7)	6 (30.0)
		Abnormal	14 (25.9)	25 (37.9)	8 (40.0)
Conduct problems	Male***	Normal	37 (67.2)	52 (35.1)	9 (12.2)
		Borderline	5 (9.1)	18 (12.2)	5 (6.8)
		Abnormal	13 (23.6)	78 (52.7)	60 (81.1)
	Female*	Normal	41 (75.9)	36 (56.3)	8 (40.0)
		Borderline	5 (9.3)	8 (12.5)	3 (15.0)
		Abnormal	8 (14.8)	20 (31.3)	9 (45.0)
Inattention and hyperactivity	Male***	Normal	37 (67.3)	52 (44.1)	9 (12.2)
		Borderline	5 (9.1)	18 (15.3)	5 (6.8)
		Abnormal	13 (23.6)	78 (66.1)	60 (81.1)
	Female**	Normal	35 (64.8)	27 (41.5)	3 (15.0)
		Borderline	6 (11.1)	11 (16.9)	7 (35.0)
		Abnormal	13 (24.1)	27 (41.5)	10 (50.0)
Peer problems	Male	Normal	29 (52.7)	55 (37.2)	23 (31.5)
		Borderline	16 (29.1)	51 (34.5)	26 (35.6)
		Abnormal	10 (18.2)	42 (28.4)	24 (32.9)
	Female*	Normal	36 (66.7)	40 (60.6)	6 (30.0)
		Borderline	14 (25.9)	15 (22.7)	9 (45.0)
		Abnormal	4 (7.4)	11 (16.7)	5 (25.0)
Pro-social behaviour	Male	Normal	23 (41.8)	63 (42.0)	30 (40.5)
		Borderline	13 (23.6)	27 (18.0)	11 (13.5)
		Abnormal	19 (35.4)	60 (40.0)	33 (44.6)
	Female**	Normal	34 (61.8)	34 (51.5)	4 (20.0)
		Borderline	10 (18.2)	14 (21.2)	3 (15.0)
		Abnormal	11 (20.0)	18 (27.3)	13 (65.0)
Total difficulties	Male***	Normal	27 (49.1)	42 (28.4)	4 (5.5)
		Borderline	12 (21.8)	22 (14.9)	14 (13.7)
		Abnormal	16 (29.1)	84 (56.8)	55 (75.3)
	Female**	Normal	30 (55.6)	22 (34.9)	2 (20.0)
		Borderline	14 (25.9)	13 (20.6)	6 (30.0)
		Abnormal	10 (18.5)	28 (44.4)	12 (50.0)

[*p<.05; **p<.01; ***p<.001]

Chapter 5: Discussion

5.1. Introduction

The purpose of this study was to ascertain whether there was a difference in the mental health needs of young people involved in street gangs when compared to non-gang offenders and the general population. Several findings have emerged with implications for policy and practice as well as areas that would warrant further investigation and this chapter will discuss these findings.

Section 5.2 gives a detailed account of the limitations of this present study. This methodological critique addresses the study design, research sites, sample size and response rates, questionnaire design, sample bias, integrity of responses and statistical analysis. This is followed by a discussion about the representativeness and demographic profile of the sample (section 5.3).

In chapter two a preliminary conceptual model of gang involvement was introduced. Throughout the rest of this chapter, reference is made back to the model. Although not every aspect of the model was tested some of the questions that were asked give some insight into these domains therefore each area of the model is discussed in turn. Individual cognitions and the rewards for criminal behaviour are not addressed specifically as these were not explored in this present study.

Section 5.4 considers the risk factors that lead to individual vulnerabilities in the model. Then, section 5.5 addresses the mental health section of the individual vulnerabilities including ADHD, PTSD, oppositional defiant disorder and conduct disorder, callous and unemotional traits and finally substance misuse and section 5.6 considers the cognitive vulnerabilities. The findings from this study suggest that there are noteworthy differences in the mental health needs of young people involved in gangs when compared to non-gang offenders and the general population.

Resilience and attainment are touched on in section 5.7 and before the gang membership and offending behaviour reported by the sample are considered in section 5.8.

Depression is discussed in section 5.9 and then the rewards of criminal behaviour (section 5.10) and the investment in peer relationships (section 5.11). It should be noted that although trauma is discussed under the inattention and hyperactivity section it could also have been discussed under emotional difficulties. The impact on the individual is then considered in section 5.12.

Section 5.13 discusses the model and its future development including the research priorities for the future before the policy implication (section 5.14). Finally the unique contribution this study makes to the evidence base is detailed.

5.2. Methodological critique

5.2.1. *Study design*

There remains much debate about the definition of a gang in the literature and public policy, making the comparison of any findings from this present study with that of others challenging. Some research asks respondents to self-nominate. Young people have been found to use the term ‘friend’ despite fitting all other criteria for the operational definition set in that study (Fleisher, 2002). This was also true of this present study where most gang members reported that they were a group of friends and did not call their group a gang. This is in contrast to popular, stereotyped images of gangs and gang members portrayed in the media.

If this present study had taken this approach alone then a different group of young people would have been analysed and therefore differing conclusions may have been drawn. The Eurogang definition is perhaps too inclusive, and

could lead to the stigmatisation of groups of young people. That being said it remains true that in this present study the young people who meet the criteria for the definition do have significantly more difficulties in some domains. As Medina et al. (2013) suggests, it is important to keep in mind that the categorisation is an approximation rather than fixed and definite.

The main limitation of this study is that it is a cross sectional design. In order to gain a greater understanding, a longitudinal study would need to be undertaken, to determine the causal pathways. This method would add some insight into whether mental health problems are risk factors leading to gang involvement and what effect being in a gang has on the young person's mental health.

In other words, in this study the mental health problem is treated as the dependent variable. It could be argued, and may well be true, that this is not correct and they should instead be the independent variable. Alternatively there may be a complex interaction between the two variables or that some mental health problems are dependent variables, such as the internalising ones, and others are independent ones, such as the externalising ones. As a cross sectional study, it is not possible to determine which was the case.

This research was conducted from a variables paradigm, looking at the effects and correlating factors, rather than the cause, in relation to mental health difficulties. Abbott (1997, 1999) urge researchers to move from the variables paradigm and return to the contextual tradition that historically focused on the ecological structure of communities and the conflicting forces (Short and Hughes, 2006). Although this research indicates a different and more problematic psychopathology for gang members it is not clear if the mental health problems are one of the causes, an outcome of gang membership or a combination. As with gang membership, most mental health problems are more prevalent when certain socio-demographic features are present, the exception to this being ADHD.

It is difficult to ensure that this was a representative sample of the whole UK population as 'no social fact [makes] any sense abstracted from its context in social (and geographic) space and time' (Abbot, 1997, 1152). In addition to these social factors, the biological factors, such as neurobiology and genetics, have also not been considered.

This sample was certainly not representative of the whole UK population and this was intentional for the purpose of getting a large enough sample size for gang members. A large scale study, taking a longitudinal approach, could be developed and consideration given to whether being in a family where multiple generation have lived and grown up in the area are different from those that have moved into the area during their lifetime. As inattention and hyperactivity and conduct problems are indicated as being different for the gang members, genetic and neurobiology could also be included as a variable in such a study.

5.2.2. *Research sites*

This present study took place in an inner city borough where gang activity was known to be high, thereby increasing the proportion of gang members to non-gang members in the study. In future studies it would be advantageous to use a formal oversampling technique like that described by Davis (2003).

School

The identity of the study's borough was kept anonymous to protect the local community from further stereotyping. Despite this, it was important for the research findings to have local relevance and so the local policy makers, participating schools' head teachers and children and young people's strategic partnership and local safeguarding children's board were aware of the research and able to use the results for a local application.

There has been criticism of the approach to keeping the area anonymous and Sullivan (2006) argues that studying the local context should be the focus of

gang research as there is a danger of research 'imposing an archetypal narrative on a wide variety of experiences embedded in very different ecological contexts.' Although more challenging it is possible to interpret the data within its historical, geographical, and socio-economic context without naming the specific borough.

This study took place in an inner city borough with high levels of socio-demographic depravation. Prevalence of mental disorders is higher among children living in poorer families and in disadvantaged areas (Maughan et al., 2008). It is likely that gang membership is one of many variables that have an impact on young people.

YOI

The YOI sample and school sample proved to be significantly different and therefore could not be compared in a meaningful way. In addition to this there was a notable weakness in the research design. Although both samples were asked about their gang activity over the past year, for the YOI respondents this was specifically prior to them being sent to custody. The SDQ asks about current emotional difficulties. The YOI young people were recently detained and with some on remand, although the questionnaire did not specifically ask this.

Remand is when a person is awaiting trial, conviction or sentence and is known to be a critical period for young people with an increase in mental health problems, including suicide, and could explain the very high SDQ scores in this population. Although it is not possible to say if gang membership is a variable that impacted on their mental health, descriptively it was still higher for gang members than for non-gang offenders.

5.2.3. *Sample size and response rate*

Although the number in this study complied with the guidelines for use of the EYS and the minimum number calculated in the research proposal, it remains

that it would have been more advantageous to have a larger sample size. There were a low number of young people who were identified as being gang members even though proportionally there were more than would be expected, when compared with other studies. This low number may have lowered the statistical power to detect significant differences between gang members, non-gang offenders and the general population. The numbers also limited the ability to consider co-morbidity of disorders and to look at other subsets within the sample.

The SDQ is an internationally well-known and tested research and clinical tool with proven psychometric properties. The self-rating SDQ was used. It is a well-established fact that information from many sources is the best predictor of disorder rather than just one source. In this study, the self-rating SDQ alone was used in order to ensure anonymity and to maximise the likelihood of the school and YOI participating. Multiple informant SDQs would have ensured more reliable data for detecting psychiatric disorders Goodman et al. (2000b) and considering prevalence within a population. The sample consisted of young people from diverse backgrounds and was appropriate for their use but in order to strengthen the findings future research could include both the teacher and parent SDQ.

The response rate for those young people that were asked to complete the questionnaire was good, at 95.5% for the schools sample and 55.9% for the YOI. A response rate of 50%-60% or greater is optimal because non response bias is thought to be minimal with that response rate (Fowler et al., 2009a). It is not possible to comment on those who were not in the sample as they were not surveyed.

The difference between the schools sample and the YOI may be explained by the circumstances that the institutions recruited young people. In the schools, regardless of whether the questionnaire was completed on a computer or with a pen and paper, it was completed in formal class time whereas in the YOI it was completed in leisure time. In the classroom non-compliance with the teacher's instruction would usually result in negative consequences. The

young person may have felt more inclined to complete the questionnaire. Also, as a classroom activity, the completion of the questionnaire may have been viewed as a whole class activity, despite the individual completing it without conferring with others.

The lower response rate by the YOI young people could be explained by it being administered in leisure time. This time is precious and young people may have had other activities they would have preferred to participate in. Also, the incentives were different for the young people in the YOI then for those in the schools. The reasons for the difference were due to the rules governing the incentives used in the YOI but may have had an impact on completion rates. Whereas financial tokens of appreciation mean the young person can purchase whatever they wish, the tokens in the YOI were prescribed and left no room for choice if the young person did not eat chocolate or want a shower gel.

Despite the research protocol being agreed prior to data collection both schools decided to adapt the protocol when they started, without informing the researcher. They both only asked a sample of those who were originally meant to be asked and this may explain the high percentage of young people involved in offending behaviour and gangs.

The schools may have purposely chosen individuals or groups to participate who they thought fit the profile of a gang member. It should be noted that the schools reported that they did not do this but one later said that the two years they chose were where they identified having problems. This non-adherence to the protocol may be a symptom of both school's newly acquired independent governance status and a desire to work in the best interests of their school and pupils rather than to answer the research question in a more general sense.

All the institutions indicated that they had not excluded any young people from participation in the survey due to special education needs or language difficulties. This was unexpected as the population in the institutions is from

diverse backgrounds and the schools are non-selective. The lack of young people identified may be a further indication that those selected to participate were specifically selected for the survey, consciously or unconsciously.

In one school, only pupils in years 9 and 10 were approached, as this was where they felt they would benefit from having more information about their pupils. In the other school they left it to the class tutor to decide whether or not to ask their tutor group to complete the questionnaire. The main rationale for non-compliance with the protocol by the class tutor was the competing demands on their time and prioritising key performance targets. The administration of the survey meant the degree of confounding between School and Year Group and the effects of these two independent variables were not easily separated although their main role in the analysis was for adjustment purposes.

Response rates to surveys vary and 'response representativeness is more important than response rate in survey research. Response rate is important if it bears on representativeness' (Fincham, 2008). This study used a survey and, as a result of this sampling technique, would probably be biased through non response. Non-respondents could differ in key aspects from those who choose to take part. There is evidence that non-respondents tend to be more antisocial than respondents (Farrington et al., 1990), this would suggest that specific groups of young people, such as gang members, may be less likely to complete the questionnaire.

This unintended sampling strategy resulted in a data set that was heavily weighted towards 14 and 15 year olds in the school sample. The disproportionate number of 14 and 15 year olds could have created a bias in the data. It would not have been appropriate to combine these with the YOI sample and analyse separately as there were only four 15 year olds and no 14 year olds in the YOI sample. 61% of the school sample was 14-15 years old. These could have been analysed separately but the numbers in each category were not large enough and the power would have been diminished.

The YOI and the PRU asked every young person, as described in the protocol. The borough has a second, large PRU, with over 100 children. A self-selecting sample from the whole PRU population was to be included in the study. It is unfortunate that the large PRU, who initially agreed to participate, withdrew due to the link staff member leaving, as it meant the number of young people in PRUs was very small (3, 0.6% of the total sample). As a result they had to be excluded from the analysis. The PRU population would have been an interesting population to include as they are the young people who have been excluded from mainstream school and there are a high proportion of offenders in the population. Most young people in the YOI are likely to have been in a PRU at some point prior to being in custody.

5.2.4. *Questionnaire design*

The mental health variable was treated as a dependent variable in the statistical analysis. Whilst emotional difficulties may be as much an outcome of involvement in gang activity as a precursor, it has been suggested that hyperactivity is a predictive factor for offending behaviour. Further research is needed to understand the relationship between variables and to determine which should be dependent and which independent variables.

In addition to this, the questionnaire was long and 5% of the YOI and 15% of the school questionnaires were not fully completed, with the SDQ left blank or partially completed. The survey may have been a better design if the SDQ was asked prior to the EYS to increase the likelihood that the mental health variable was captured. This would have been particularly helpful for those filling in the questionnaire in paper form.

The administration of the questionnaire also had an impact on how the questionnaire was completed. The young people in this sample were asked to complete the questionnaire themselves. By doing this anonymously they may have described emotional and anti-social behaviour more freely, even if they have successfully hidden their experience from adults.

The on line version skipped questions about the group demographics if the young person indicated that they were not part of an informal group. Although the paper version indicated that the questions should be skipped, most respondents then went on to complete the questions indicating that they did in fact have an informal group of friends. This may be an indication of the young person's understanding of the group questions and would need to be reviewed if the study were to be repeated. Also a consistent administration method would be more advantageous.

A final limitation of the design was the open ended question about ethnicity. The questionnaire generated such a wide variety of answers that it was not possible to group them into meaningful categories for analysis (A full breakdown is in appendix 8). The YOI sample gave much fewer as well as more standardised responses than the school sample. This may have been a result of the formal processes they have been through, such as arrest, trial, detention and involvement of social services which have led to their responses being what they think is expected rather than their own idea of what their ethnic identity is.

Although it is acknowledged that it is important for individuals to have the freedom to identify their ethnicity in terms they are comfortable with, for the purposes of further research, this study has shown that a more sensible approach is to offer broad categories that have been used in previous research, thereby enabling comparisons.

A useful addition to the questionnaire would have been a question about any current treatment the respondent was receiving or has received in the past. If few of the respondents are treated for ADHD, then the results above provide an upper bound of the effects of ADHD on gang involvement but there may have been a group of young people diagnosed with a mental health problem but who scored low on the SDQ due to effective treatments. This may not yet have had an impact on any gang related or offending behaviours.

5.2.5. *Sample bias*

Although all the schools in an inner city borough were invited to participate in the study only two schools engaged with the whole process. The schools that participated were both academies, meaning their newly acquired governance structures are independent of the local authority. In their most recent OFSTED reports were classified as ‘good’ and ‘outstanding,’ making them popular with local families. As a result of these factors there may be something inherently different about both the schools and the individuals who responded and thus not be representative of the target population and other schools in the area. This may have caused a systematic bias that could have affected the results. This is unlikely to be the case as both school emphasise that they are non-selective and a high percentage of young people were involved in offending behaviour.

A bias may also have been present as one school in particular had a strong emphasis on the pastoral care and emotional well-being of their students. Despite this, the results showed an unusually high level of mental health need and offending behaviour. (Meltzer et al., 2000) obtained information from 10,298 UK parents, 8,208 teachers and 4,228 young people and reported an increase in mental health problems in areas with specific socio-demographic features. Many of these variables were present for the sample in this study which may explain the high level of mental health need but they still remain higher than expected.

5.2.6. *Integrity of the responses*

The 4 respondents from the YOI who denied offending behaviour may have been on remand and are innocent, wrongly convicted of a crime or not being honest when they completed the questionnaire. In addition to this, without being able to identify the young people it would not be possible to cross check responses for offending behaviour with convicted crime or reports from other sources. There may be under and over reporting of offending incidents, severity and frequency but the anonymous nature of the survey was

employed to minimise this risk. That being said those with inattention and hyperactivity has been known, in previous studies, to under report delinquent behaviour.

5.2.7. *Statistical analysis*

The analysis of each dependent variable was approached on an individual basis. It could be argued that as the 'total difficulties' variable did not meet the assumption for ANCOVA, that an ordinal regression should have been used for all variables. In this present study, ANCOVA was fitted to the data when the assumptions underpinning this statistical method were met as grouping the dependent variable into an ordinal variable tends to diminish the statistical power. A larger sample is required to show an equivalent effect and therefore this approach was only considered if the data were not meeting the assumptions required for ANCOVA so as not to unnecessarily diminish the effective size of the sample.

The use multiple outcome measures would have affected the power calculations in this present study. The number of tests that were used raises the question of the likelihood of statistical chance being higher. Multiple testing adjustments for a single dependent variable and an independent variable with three of more categories would have been possible using a multiple comparison correction, such as Bonferroni. In this present study, where there were multiple dependent variables, this approach would not have been appropriate.

High levels of severity and frequency of offending was found in gang members who also scored as abnormal or borderline for inattention and hyperactivity. In future studies it would be important to include the severity and frequency of offending as a co-variate in the statistical model as it is likely that these would be associated in the general offender population, whether or not they are gang members. It was not possible to add these co-variates to the other two co-variates (school and year group) to the statistical model used without greatly decreasing the power of the results.

5.3. Representativeness and the demographic profile of the sample

The sample from the school and the sample from the YOI were significantly different in key aspects (mental health difficulties, substance misuse, seriousness and frequency of offences committed, who they resided with when living in the community) despite the young people in the YOI coming from the same, or neighbouring geographical areas. As a result of this, they were treated in the analysis as independent populations.

The gender differences in relation to specific mental health variables are discussed as each SDQ variable is considered. Gender could only be considered for the school samples as the YOI sample consisted of males only. The overarching picture from the school's sample is of more boys being classified as gang members than females (73% and 27% respectively) but the percentage of males to females in the overall sample was 61% male and 39% female which may have had an impact on this distributions. 51% of females and 49% of males were not involved in any offending behaviour indicating that, in this sample, if offending more male offenders were gang members than females.

Although the proportion of male to female gang members is different from the proportions reported by Sharp et al. (2006), where there were roughly even proportions of males and females, when age ranges were considered they found that from the age of 15, the males become proportionately more likely to be gang members than the females and this trend increased with age. A larger sample size would enable further consideration of the proportion of males to females in each of the gang status categories.

It is difficult to make generalisations about the ethnicity of respondents due to the wide variety of responses that were obtained (see appendix 8). What can be said is that the samples were made up of a very diverse group of individuals representing multiple races and cultures. This was true across the general population, non-gang offenders and gang members. These finds concur with UK research that has found that the ethnicity of gang members

tends to reflect the local community demographics (Fagan, 1996, Tilley and Bullock, 2002, Bradshaw, 2005, Aldridge et al., 2008). The borough where this research took place is ethnically and culturally very diverse.

Ethnicity can be considered a descriptor of a gang but is not a definer. In predominantly white communities the overwhelming majority of gang members were white (Holloway and Bennett, 2004, Smith and Bradshaw, 2005) and in other, more mixed communities, white British and black Caribbean were more likely than Black Africans and South Asians to be involved in a gang, although the difference was not statistically significant (Tilley and Bullock, 2002). The Offending Crime and Justice Survey (Home Office, 2004) has also reported that there is little to suggest ethnic differences or a particular over representation of young black males in gangs.

The age of respondents in this study did not reflect the picture that is given by the Youth Justice Board in relation to the age distribution of young people known to the YOS. This present study asked respondents to report their own offending behaviour, whether or not they had been arrested or convicted, and so it would be expected that rates are higher. This, plus the age distribution of the total sample in this present study, could account for the differences.

5.4. **Risk Factors**

In chapter two a preliminary conceptual model for gang involvement was introduced and it was proposed that this study would test elements of the model, primarily the mental health difficulties. Other data from this study may also give insight into other aspects of the model that could hold promise for future exploration. The model suggests social/community, familial and biological risk factors that contribute to the individual vulnerabilities. Although these were not directly tested, this present study gives some indication that these are vulnerabilities that may be worthy of further investigation.

5.4.1. *Social and community*

The schools are situated in an area of low socio-economic status and the YOI serves a similar population. Low socio-economic status is correlated with a higher prevalence of gangs (Rizzo, 2003; Chettleburgh, 2007). Despite the sampling bias that may have been present, the high prevalence of gang members in the sample support these findings.

Another variable worth considering is that approximately half of the school sample and two thirds of the YOI sample (whilst in the community) reported being a victim of violent crime and the percentage increased for the gang members (63% school, 79% YOI). Adolescents who have been exposed to physical assault are at increased risk of mental health problems, including PTSD and depression (Fagan, 2003). If they, as they report, have been exposed to more violence and crime then they are at greater risk of mental health problems. This is explored further when post-traumatic stress disorder is considered in section 5.5.2 although it should be noted that not all young people who experience trauma or are a victim of crime develop PTSD.

In communities where gangs are present there is generally an increase in the fear of and direct experience of gang related violence, where either the victim or the offender is affiliated with a gang and the violence can occur because of that affiliation. In this present study it was found that overall 69% of the school sample was aware of gangs in their neighbourhood, 27% were unsure and only 5% thought there were none present. In the YOI this was 82%, 11% and 7% respectively. Very few young people in this study thought that their community did not have gangs present. Living with this knowledge, and any fear associated with it, may have had an impact on their mental health and well as their understanding of life.

5.4.2. *Familial*

A limitation of this study is that it did not ask the young people about their experience of abuse or neglect specifically although it did ask if they had been

a victim of violent crime but not if this crime was committed by someone they knew or whether it was within a gang context. The findings in relation to violent crime support the view that gang members are exposed to higher levels of interpersonal violence than non-gang members.

Lawyer et al. (2006) explored the victim-perpetrator relationship and found that there was a meaningful association between the nature of the victim-perpetrator relationship and certain mental health outcomes, in particular PTSD. It is not possible to ascertain if this was true for the sample in the present study but, given the higher incidence of being a victim of crime by gang members, it would offer an interesting avenue for future study.

They responses also could not determine if the perpetrator was a family member. The items in questionnaire relating to the family and living arrangements asked who they lived with but did not go beyond this. There was found to be no statistical difference between the general population, non-gang offenders and gang members. One indication that a young person may have been abused or neglected is if they are a 'looked after children[4].' In the school sample, only 2 young people were in foster care. All the young people in the YOI are considered 'looked after children' but before entering custody only 2 were in foster care and 3 were living in supported housing. As result it is not possible to comment on the young people's experience of abuse and neglect.

5.4.3. *Biological*

Conduct difficulties and inattention and hyperactivity were found to have a higher presence in the gang members in this study when compared to non-gang offenders and the normal population. This will be explored in greater depth when conduct disorders and ADHD are considered but this has some

[4] Looked after children- is generally used to mean those young people who are looked after by the state.

relevance to the biological risks detailed in the model, particularly when combined with experiences of abuse and low socio-economic status.

In relation to the biological risk factors, conduct problems and pro-social behaviour difficulties could have a genetic component. Although little has been written about any genetic predisposition to gang involvement, one study (Beaver et al., 2010) explored the link between the level of Monoamine Oxidase A [MAOA], gang membership and weapon use. They found a lower level of MAOA correlated with gang membership in males but not females, as the study only investigated males.

This low level has also been found, in other studies (Caspi et al., 2002, Kim-Cohen et al., 2006), to be linked with conduct disorder, autistic traits and criminal behaviour. Although the precise mechanisms leading from MAOA to gang membership are unknown, it is thought to be likely that it is the result of a gene-environment correlation (Jaffee and Price, 2004).

Child abuse and neglect and genetics offer an area for future exploration through research in relation to the interaction between the three risk domains in the model. Foley et al., (2004) found that genotypes associated with low MAOA increased risk for conduct disorder only in the presence of adverse child environment. It would therefore be sensible to include the interaction between abuse and genetics in future studies.

5.5. **Individual vulnerabilities- Mental health**

The mental health difficulties in the individual vulnerabilities domain of the model are listed as ADHD, PTSD, oppositional defiant disorder, conduct disorder, callous and unemotional traits and substance misuse. These will be explored in this section by using the relevant items in the SDQ and the substance use items from the questionnaire.

When comparing the results from the sample, as a whole and when divided into the categories of general population, non-gang and gang members, it

became evident that the young people in the sample had a high level of mental health need when compared to national data sets (Meltzer et al., 2000). This high level of need might be explained by the location where the study took place. It is an area of high socio-demographic need. In addition, the way the schools selected pupils to take part may have led, consciously or unconsciously, to them targeting years, tutor groups and individuals that they perceived had higher need. This is explored further in the methodological critique in section 5.2.

This present study considered the relationship between gang membership and mental health but definitive conclusions cannot be drawn because gang status is one of multiple variables that impact on a young person's mental health. There is more likely to be a complex interaction involving numerous variables where gang membership is just one. The first item on the SDQ that will be explored is inattention and hyperactivity.

The mean inattention and hyperactivity score from both the sample from the YOI (6.6) and the sample from the school (5.9) was higher than the normative score (3.8) generated by Meltzer et al. (2000) in the national study investigating the mental health of young people in the UK. This was also true when considering only the non-offending sample from the schools (5.1). A clinically significant score for an individual is in the borderline range if it is 6 and abnormal above this.

In the school sample, gang members had a significantly higher mean (7.3) score for hyperactivity and inattention then both the non-gang offenders (6) and the general population (5.1). In the YOI sample, gang members had a higher mean for hyperactivity and inattention than non-gang offenders (7.2 and 6 respectively) but, due to the small sample size it was not possible to determine if this was significant and the association was not significant.

When the data was explored for subgroups in terms of frequent, serious and frequent-serious offences, the results indicated that there was a relationship between some of the variables. More gang members, in the school sample,

within the abnormal range for hyperactivity and inattention reported a high frequency of frequent and serious offences. This was also found for those that scored in the borderline range. For non-gang offenders there was little difference between those in the abnormal and borderline range. There is some suggestion that those with high levels of impulsivity tend to under-report delinquent acts (Watkins and Melde, 2007). If this is the case, and the sample has under reported the frequency and severity of their offending, the true significance may in fact be higher.

Gang members are known to be involved in more frequent and more serious offences than non-gang members (Sharp et al., 2006). The findings from this present study suggest that the inattention and hyperactivity alone does not lead to frequent and serious offending in gang members. Instead it may indicate that, once a young person has become a gang member the hyperactivity and inattention may contribute to the young person being more vulnerable to being influenced by the gang.

The gang environment creates more opportunities for the young person to take risks and act impulsively and thereby commit more frequent and serious offences, without thought of the consequences. Acting in this way contributes to the hyper-masculinity that is prized in gang culture, offering the individual higher status within the group. Status features in the model as a 'reward for criminal behaviour' and within 'investment in peer relationships.'

There is some debate in the literature to suggest that PTSD should be a differential diagnosis when considering ADHD (Weinstein et al., 2000) as it can be characterised by difficulty concentrating, restlessness or irritability, and impulsivity. Also, traumatic experiences can reduce a person's ability to concentrate (Yehuda, 2001). The SDQ does not take a detailed history of the young person's symptoms and developmental history, so the onset and duration of symptoms cannot be ascertained.

An important finding from this study was that gang members were significantly more hyperactive and inattentive than both non-gang offenders and the

general population. Despite the literature review not finding any studies that investigated this specifically the result would have been expected as ADHD and PTSD are both frequently referred to as being linked to offending behaviour and gang membership. As a result of this, ADHD and then PTSD are considered in this section but it should be noted that impulsivity and disruptive behaviour are also present in conduct disorder and oppositional defiant disorder and these are often co-morbid disorders with ADHD.

5.5.1. ADHD

ADHD has been shown to be linked with several measures of criminal activity, although much of this research has used small convenience samples of individuals or assessed the relationship in a cross-sectional context, as in this present study. There is now more general agreement that there is a positive relation between ADHD and offending although the exact nature of this relationship remains unclear. Rates in the young offender population are around 45% (Rösler et al., 2004, Young et al., 2010). Studies have been conducted with populations of known offenders and not those that are offending but not known to services; therefore the true prevalence remains unclear.

The results in relation to inattention and hyperactivity that are suggested by this present study are generally supported by associated research investigating the population of people with ADHD. This present study was not able to diagnose ADHD in the sample and neither was it able to consider the subtypes of ADHD as a full developmental history was not taken and multiple informants were not consulted. This research generates some potential hypothesis about why the gang population, with higher hyperactivity and inattention scores, report more involvement with frequent serious offences. These could be tested in relation to different subtypes of ADHD.

There is a higher prevalence of ADHD in violent offenders when compared to those with non-violent offences (Blocher et al., 2001). Gang members have been found to be involved in more violent offences. It is also interesting to

note that Sibley et al. (2010) found that adolescents and young adults with ADHD were over twice as likely as comparison participants to under-report the severity of their delinquency as compared to parent report indicating that the seriousness of the offending in the present study may have been under reported.

Violence can be classified as either reactive or proactive aggression. Reactive aggression is explained by Retz et al. (2013) as

'not planned but a spontaneous reaction to a provocation or a conflict. Reactive aggression is driven by affective outbursts. It is short-lived and has no finalistic target except the reduction in tension and agitation. Usually, reactive violence is not rational and without systematic or instrumental character of the aggressive actions.' (50)

The findings from this study, that indicate that inattentive and hyperactive gang members report more frequent serious offences are supported by the literature that discusses ADHD and reactive aggression. In addition to the violent nature of offences, Bennett et al. (2004) showed that reactive aggression, rather than proactive and controlled aggression was more common in 8–15 year old children with ADHD and this relationship increased from middle childhood to adolescence. This was further supported in a study that demonstrated in children with conduct problems that ADHD is a moderator of reactive but not proactive aggression (Waschbusch et al., 2007).

Only one UK study Sharp et al. (2006) was found that looked at the type of offences committed by gang members in any depth. They reported 34% of gang members had committed a serious offence and 28% had offended on a frequent basis, 7% had committed a serious offence on six or more occasions. This present study found 85% of offenders had committed a serious offence, 73% frequently offended and 73% were frequent serious offenders.

The figures from the Sharp et al. (2006) were significantly higher for gang members compared with the equivalent in young people not classed as gang

members (13% serious, 7% frequent and 2% frequent serious respectively). In the present study they were 70%, 50% and 43% respectively for non-gang members. As discussed previously the sample from the present study reported an unusually high level of offending behaviour. This may have been due to the bias created by the way the school selecting individuals to complete the questionnaire as well as the low socio demographic status of the catchment area for the schools. Despite this the picture of gang members committing proportionately more frequent and serious offences than non-gang offenders reflects that seen in other studies.

Criminal behaviour and delinquency have been found to be more common in young people wit ADHD (Gudjonsson et al., 2011; Barkley et al. 2008) Moffitt (2003) found that hyperactivity, inattention and impulsivity are characteristic of the subgroup of life course persistent offenders. Further investigation is needed to understand if the subgroup of gang members with ADHD is responsible for more violent and frequent offences and whether they are more likely to be life persistent offenders but the results of this present research and the other papers mentioned indicate that ADHD needs to be included in the model of gang involvement.

The ADHD aspect of the model can then be tested with targeted clinical interventions that reach those with ADHD symptoms thereby generating evidence about what might be a useful contribution to the package of services for this population. Consideration will need to be given to the delivery of such a service as this population is unlikely to attend a formal clinic and comply with a psychopharmacological regime.

The research, by Defoe et al. (2013), which will also be discussed in relation to emotional difficulties, could offer some insight into the possible pathways and placement within the model. The findings from this present study could be applied to their findings in relation to the sequence of events for offending behaviour. They described that hyperactivity-impulsivity-attention deficit leads to low achievement which leads to delinquency which, in turn leads to depression. Defoe et al. (2013, 105) argues that the main policy implications

of their results were that it would be ‘more effective to target low achievement rather than hyperactivity or low socio-economic status in intervention programs.’

Although the key finding from their study was that, whatever the cause, the low attainment was the risk factor for delinquency and subsequent depression, addressing the root causes of the underachievement would seem a sensible approach for early intervention. Not all root causes can be addressed easily and it would be likely that there are multiple reasons for a young person to underachieve but identifying the root causes for each individual could ensure services were tailored to individual need. The findings from this present study suggest that efficacious mental health services for gang members could be an important element of services for this group, targeted at both the prevention and intervention stages.

Gang members with ADHD that is either undiagnosed or untreated offer another potential area for intervention. The inattention, hyperactivity and impulsiveness in the YOS population often leads to a problematic cycle of non-compliance with court orders due to chaotic lifestyles, not remembering appointments and not considering consequences. This can result in orders being returned to court and harsher sentences being passed.

Services could then be developed to assist the young person to manage their hyperactivity and inattention and achieve their full potential. For the gang population this may be achieved through the YOS, on orders such as Intensive Supervision and Surveillance Programmes (ISSP), where young offenders can be ordered to complete a training programme. A psychological training intervention that targets this impulsivity as well as offering moral reasoning, such as Reasoning and Rehabilitation 2 for ADHD (Young and Ross, 2007) could offer a potentially interesting intervention for an initial trial.

Other potential times when opportunities arise for gang members to access assessment and treatment are when they are motivated to change. These, often brief windows of opportunity, can be when they are in a crisis, such as

on arrest or in the Emergency department, or have been offered hope in some way.

5.5.2. Post-Traumatic Stress Disorder

As previously discussed, the inattention and hyperactivity found in this study may be related to PTSD as there is some evidence to suggest that increased exposure to traumatic events can be related to higher hyperactivity scores. This study is not able to determine whether trauma is the reason for the inattention and so the discussion about trauma goes beyond what the data actually indicates.

Increasingly there is evidence to suggest that there is a strong positive relationship between offending and the risk of victimisation (Smith, 2004, Smith and Ecob, 2007). For females within gangs, this is mainly of a sexual nature (Miller, 1998, Venkatesh, 1998).

This present study took place in a low income area and Skybo (2005) found that young people from low income areas witness more violence which can lead to an acute stress response. This present study did not seek to understand the level or type of trauma experienced in the past or present, apart from being a victim of crime. Being a victim of crime was defined in very broad categories and did not stipulate whether the crime was within the context of a gang or if it took place within their local community. It has been acknowledged that the trauma provoked in gang members by violence does not receive sufficient policy attention, locally or nationally (Economic and Social Research Council, 2009).

Murphy et al. (2005) considered young people exposed to violence by looking at the records of a US police mental health service and found that acute clinical responses were more likely in gang involved young people. These young people were victims of violent crime, both within the gang context and externally, and had witnessed violent criminal acts. Offenders in this present study reported a high incidence of being a victim of crime, including violent

crime with 61% of the school sample and 70% of the YOI sample saying they had been a victim of crime; for violent crime this was 51% and 67% respectively. Whether an offender was a gang member or not does not appear to mean that they are more often a victim of crime. The increase in mental health difficulties may mean that the extent and type of exposure and their reaction to it is different. Alternatively the impact of being in a low income area may be one of the contributing variables.

There was an association between being a victim of crime and whether or not the young person was an offender but this does not appear to be related to gang membership status as there was little difference between gang and non-gang offenders in the school sample although there were significant differences in the inattention and hyperactivity, but not emotional difficulties experienced. There was a significant association found in the YOI sample where a large proportion of gang members reported being victims of violent crime.

This present study raises further questions about gang member's exposure to trauma, the type of trauma and the effect it has on them. As discussed, adolescents involved in gangs are not only the perpetrators of violence, but also victims. They are exposed to violence and aggression, trauma and substance misuse, all likely to increase mental health problems (Paton et al., 2009). Although not supported by one small Haitian study that was discussed previously (Douyon et al., 2005), victimisation, when experienced by young people who exhibit high risk behaviours, has been associated with depression, generalized anxiety disorder, traumatic stress disorder, and conduct disorder (Perron et al., 2008), although the effect size is small.

Differences in exposure to stressful life events have been shown to be associated with adolescent crime and delinquency (Hoffman and Miller, 1998, Mazerolle, 1998) but little research has been conducted to determine if such exposure, from gang involvement specifically, is associated with an increase in mental health problems for these young people.

The gang members, in this present study, reported more frequent serious offending as well as a high percentage being a victim of crime (67%) and in particular violent crime (63%). These findings and those in relation to frequent and serious offending supports the study by Perron et al. (2008) rather than the conclusions drawn by Douyon et al. (2008). This would suggest that the gang members are more likely to have been exposed to trauma as a victim of crime and this has an impact on their mental health. An alternative hypothesis could be that they have become sensitised to violence if they have experienced abuse. These hypothesis needs further testing.

Gang members in the YOI had been convicted of an offence and this will either be serious in nature or the young person will have repeatedly breached a community order for a lesser offence which has led to a custodial sentence. Another reason for their imprisonment might be that they are on remand, awaiting trial, conviction or sentencing. This study did not ask the YOI sample what offence they had been convicted of, nor if they were on remand, and so could not determine if the gang members' offences were of a more serious nature.

The findings from this present study are supported by research that considers either the gang member or the general offender population as a whole although these studies do not compare the two. Gang members are known to be exposed to violence more often within the gang context, not only from their own violence but also that of others. Gang members report higher rates of violent offending, non-violent delinquency, and victimisation than their peers (Taylor et al., 2007), findings that are supported by this present study. Also, the factors strongly associated with mental health problems, such as childhood trauma, in the form of abuse or loss, were present in high rates in young offenders who were convicted of offences of a serious nature (Boswell, 1995, Bailey, 1996), this is an additional variable that could be included in future research.

It can be a challenge to determine the cause of any PTSD involving gang members as gang members are known to have been exposed to more abuse

and trauma in earlier life as well as to gang related exposure to violence in more recent times. Increased rates of PTSD might be due to life course exposure to violence and abuse, to recent gang violence or a combination of the two. Abuse and trauma in earlier life was not investigated in this study and only minimal information was requested in relation to current exposure to violence and abuse. The findings offer potential hypotheses that can be tested in future research.

5.5.3. Oppositional Defiant Disorder and Conduct Disorder

Oppositional defiant disorder and conduct disorder within the model can be considered in relation to the SDQ conduct symptoms score. The mean conduct symptoms score from both the sample from the YOI (7.4) and the sample from the school (4) was higher than the normative score (2.2) generated by Meltzer et al. (2000) in the national study investigating the mental health of young people in the UK. This was also true when considering only the non-offending sample from the schools (2.8), although the difference was not large. Clinically, a significant score for an individual is in the borderline range when it is 4 and abnormal above this.

The results did not allow for inferential statistics to be used, as explained in the results chapter, but significant associations were found. The school sample revealed that the mean score for the general population (2.8) was lower than the non-gang offenders (4.2), which was lower than the gang members (5.4). Similarly, in the YOI population, the non-gang member mean (6.6) was lower than the gang member mean (8.3). There was not a statistically significant relationship between conduct problems and gang status in the YOI sample but there was in the school sample.

It would seem likely that there is a difference between the offenders and the general population although, once again, it could be argued that the conduct problems should have been treated as a dependent variable, something leading to gang involvement as, in general population studies, conduct disorder has been identified as a strong predictors of serious and persistent

offending and antisocial behaviour (Loeber et al., 2002). It is likely that there is a reciprocal relationship as the literature suggests that behavioural problems increase whilst in a gang, but the trend reverses when they leave.

This present study supports the findings from previous studies as it found that gang members report more frequent serious offences and this supports the notion that they would score higher for conduct problems. 92% of the gang members who were in the abnormal range for conduct problems reported serious offending whereas, in the normal range, 65% of offenders reported frequent and frequent serious offences.

5.5.4. Callous and unemotional traits and Autistic Spectrum Disorders

Callous and unemotional traits and ASD are considered by looking at the pro-social scale of the SDQ. These are not the same and it is important to note that the pro-social scale does not predict any specific disorders. That being said, Lizuka et al. (2010) found that the pro-social subscale of the SDQ may reflect behavioural, emotional, and social characteristics of High Functioning Autistic Spectrum Disorder (ASD) and ADHD.

The pro-social item score on the SDQ indicates the amount of pro-social characteristics a child shows (Goodman 1997). Psychopathy in young people has been linked low pro-sociality or empathy (Lahey et al., 1999c, Lynam and Gudonis, 2005). Psychopathy in young people has been described in terms of unemotional and callous traits. Once again, it should be noted that the scale does not measure for these difficulties but can give an indication that the area needs further exploration.

The areas that are used to generate the score for pro-social behaviour are:

- Considerate of other people's feelings
- Shares readily with other children, for example toys, food
- Helpful if someone is hurt, upset or feeling ill
- Kind to younger children

- Often volunteers to help others (parents, teachers, other children)

These questions do not give an indication of a definitive diagnosis, like the other mental health difficulties, but do indicate the need for further assessment to understand if ADHD, ASD or callous and unemotional traits are present. In summary, any links between the pro-social scores and characteristics and ASD or psychopathy are speculative. This section uses this speculation to explore these hypothetical difficulties that could be investigated in future research.

When considering the interpretation of the pro-social scores in the present study comparisons are made with other studies that discuss pro-social behaviour, which tend to be labelled as psychopathy or callous and unemotional traits. Although it could be argued that the low empathy identified in many of the studies is related to ASD, the gang literature does not discuss ASD and attributes low empathy and pro-social behaviour to psychopathy. What they are observing could be undiagnosed ASD therefore ASD has been placed within the model for gang involvement to ensure future research considers this differential diagnosis.

The mean pro-social behaviour score from both the sample from the YOI (4.98) and the sample from the school (5.28) was lower (towards the abnormal range) than the normative score (8) generated by Meltzer et al. (2000) in the national study investigating the mental health of young people in the UK. This was also true when considering only the non-offending sample from the schools (5.74). A clinically significant score for an individual is considered to be in the borderline range if it is 5 and below this is abnormal.

For the school population, gang members had significantly more pro-social behaviour problems than both the general population ($p<.001$) and non-gang offenders ($p=.001$). The YOI sample was not large enough to test for significance but the descriptive statistics revealed little difference between the non-gang offenders and the gang members.

The pro-social difficulties were considered separately for males and females. There was not an association found for males in relation to pro-social behaviour as the distribution was quite even but there were for females with 65% of female gang members scoring in the abnormal range and this increases to 80% for the combined borderline and abnormal range. This is in contrast to 27% of the non-gang offenders and 20% of the general population in the combined borderline and abnormal range. This is an interesting association as ADHD, ASD and unemotional and callous traits have a higher prevalence in males than females. This finding would warrant further exploration in a larger study to understand if and why females with pro-social difficulties are more likely to be drawn to gangs.

The results from the school sample are supported by research comparing gang members to non-gang members from the same community. This showed gang members exhibited high levels of psychopathic traits, notably low empathy (Valdez et al., 2000). In this present study it appears gang members who score in the abnormal range for pro-social problems more frequently report frequent, serious and frequent and serious offences and non-gang offenders in the abnormal range reported fewer of all types of offences, although the proportional difference was not so great.

One US study found young people who live in disorganized neighbourhoods and have psychopathic tendencies are five times more likely to become gang members (Dupéré et al., 2007). The intersection of factors, as opposed to considering them in isolation, increased predictive power not only for gang affiliation, but also for other behavioural manifestations closely associated to psychopathy, such as behaviour problems and delinquency (Tremblay et al., 1994, Lahey et al., 1999a, Côté et al., 2002). These research findings have held true in this present study where the sample population exhibit high levels of offending, gang activity, pro-social behaviour and high levels of socio-demographic need.

5.5.5. Substance misuse

This study did not explore substance misuse in detail but did ask the young people about their use of alcohol, tobacco, marijuana and 'other drugs.' Inferential statistics were not possible due to the sample size in each category but the descriptive statistics showed that in the school sample very few (4%) admitted to using marijuana although there were differences between the gang members and other young people in the sample. 22% of gang members reported having used marijuana at least once in the last year and 10% more than ten times. This was in contrast to 6% of non-gang offenders and 2% of the normal population admitting using it at least once in the last year and 3% and 2% respectively used more than ten times in the last year.

Details of other illegal substances were not requested, instead a broad category of 'other illegal substances' was included in the study. Once again the numbers were small in relation to how many responded that they had used other substances and gang members reported more use (11% of gang members, 4% of non-gang offenders and 1% of the general population).

A similar picture emerged in the YOI with gang members reporting more use of marijuana (88% gang and 60% non-gang offender) and other illegal substances than non-gang offenders (30% gang and 10% non-gang offender).

These results indicate that including substance misuse in the model is important. Further exploration is needed to understand the complex relationship between offending, gang involvement, mental health and substance use.

5.5.6. *Multiple difficulties reported.*

The model currently lists possible mental disorders in the individual vulnerabilities and does not address the issue of co-morbidity. True co-morbidity was not measured in this study. Instead the combination of

difficulties that were reported in relation to the three main types of mental health difficulties were considered: emotional, inattention and hyperactivity and conduct problems. The data revealed that, when considering these three variables, only 3% of gang members scored within the normal range for all three domains meaning that 97% scored as abnormal or borderline for at least one or more for these difficulties.

These results may indicate the severity of difficulties experienced or co-morbidity. Co-morbidity of other disorders with depression is common across the age span. At least two thirds of school aged children (Ford et al., 2003) with depression have a co-morbid difficulty and 10% have two or more. Many of the risk factors that are found in relation to mental health difficulties are also present for gang members including marginalisation, stereotyping, stigma, trauma, abuse, living in a low socio-demographic area, family difficulties and parenting problems.

Conduct disorder is known to be a precursor to anti-social development as is ADHD when it is combined with conduct disorder. Mordre et al. (2011) found, in a longitudinal study that although combined conduct disorder and ADHD is highly associated with later delinquency, ADHD alone was not. In addition, ADHD is not predictive of re-offending, whereas the comorbidity of ODD/CD and ADHD is (Lynam, 1996, Loeber et al., 2000, Satterfield et al., 2007). In this study it was not possible to consider co-morbidity thoroughly due to the small numbers in each category of co-morbidity.

Exploration of co-morbidity could be considered for future research. This present study offers some indications as to where the research may be usefully directed. When inattention and hyperactivity was considered with pro-social behaviour the numbers in each category were too small to ascertain if there were any significant findings other than any associations. A high number of gang members scored in the abnormal range for both inattention and hyperactivity and pro-social behaviour. These finding are supported by studies have suggested that have ADHD and psychopathy share some symptomatology (Retz et al., 2013) and young people with a diagnosis of

ADHD have higher levels of psychopathic traits (Fowler et al., 2009b). This may explain some of the reasons why more frequent and serious offences take place.

5.5.7. *Total difficulties*

This study found, when the covariates of year group and school were included, in the school population, that gang members had significantly more total difficulties than both the non-gang offenders (p=.01) and the general population (p<.001). Also, non-gang offenders had significantly more total difficulties than the general population (p=.01). Within the YOI sample the descriptive statistics also revealed a higher mean for gang members (28.7) than non-gang offenders (25.9).

The sample, as a whole and when looked at as separate YOI and school categories, had more mental health difficulties when compared to the normative data for the whole population investigating the mental health of children and young people in Great Britain (Meltzer et al., 2000, Green et al., 2005). The descriptive statistics from this present study showed that the gang members had more difficulties in every mental health domain than non-gang offenders and the general population but these differences were not always significant. When the total difficulties score was considered in the school sample, the results reached the significance level. The YOI sample was not large enough to go beyond descriptive statistics.

The mean total score from both the sample from the YOI (27.24) and the sample from the school (15.05) was higher than the normative score (10.3) generated by Meltzer et al. (2000) in the national study investigating the mental health of young people in the UK. This was also true when considering only the non-offending sample from the schools (15.94). A clinically significant score for an individual is within the borderline range if it is 16-19, above this is abnormal. The mental health difficulties were considered separately for males and females and the differences between the general population, non-gang offenders and gang members were significant for both genders.

It is not possible, from this study to ascertain if these significant increases are an outcome of gang involvement or a precursor. What can be said is that gang members have a significantly different profile to non-gang offenders and the general population and the culmination of difficulties may contribute to significant differences in the pathways the groups take.

5.6. Resilience and attainment

This area of the model was not explored in the present study. Fougere et al. (2012) found that in a sample of young adult and youth offenders, the absence of a likely mental health diagnosis was the only factor significantly correlated with resilience, the ability to cope with stress and adversity. This was included in the model so that both risk and resilience are considered.

Resilience is a complex construct that covers a reduced vulnerability to risks, the overcoming of stress or a rather good outcome despite risk experiences (Rutter, 2012). Future research could explore whether improving the mental health of these individuals may have an impact on resilience, and thereby attainment, breaking the cycle of offending.

5.7. Gang membership and offending behaviour

The proposed preliminary conceptual model for gang involvement places offending behaviour within the gang membership domain. In this section both the gang membership and the offending behaviour reported by the sample are explored.

5.7.1. Gang membership

As has been found in the US by Matsuda et al. (2012), those that self-identified as gang members formed a different group from those that were identified through the use of the Eurogang definition with some overlap between the two categories. When all the offenders were considered together,

70% were non-gang offenders and 30% either said they were a gang member and/or met the criteria for the Eurogang definition in the school sample. The reverse was revealed when the YOI sample was considered where 23% were non-gang offenders and the 77% were gang members by self-definition and/or the operational definition.

It could be argued that all the risk factors and vulnerabilities that are being explored in relation to gang involvement are also risk factors for offending and delinquent behaviour generally, regardless of gang involvement. The model brings these risks and vulnerabilities and would demonstrate the higher likelihood of gang membership and the associated offending behaviour that could be tested though future research.

5.7.2. *Offending behaviour*

The trend in the schools' data, where gang members report more frequent, serious and frequent serious offenders could provide an early indication of the young people most at risk being given custodial sentences. In the present study only the gang members who were identified using the Eurogang operational definition were analysed although it should be noted that Matsuda et al. (2012) found that both those that self-defined as gang members and those that were identified using the Eurogang definition were vulnerable and had more negative outcomes.

This study asked young people to report their own experiences, behaviour and situation. Self-reported delinquency is thought to be a valid measure of offending behaviour and delinquency in young people (Sibley et al., 2010) with an increase in the number of acts reported when compared to either official records or parental report. This study assured anonymity to the respondents in order to encourage more accurate completion of the questionnaires. Despite this, it has been shown that young people, particularly those with inattention, tend to under report deviant and anti-social acts (Sibley et al., 2010).

In the present study there was an unusually high level of offending behaviour reported as well as a high level of gang membership, when the operational definition was applied. The proportion of young people in each setting involved in offending behaviour was 93% (YOI) and 70% (schools). Of these offenders, excluding the general population, gang members constituted 62.3% (YOI) and 23.4% (school). In the whole sample in each institution type, those in a gang were 57.9% (YOI) and 16.5% (schools). The representativeness of the sample is explored in the methodological critique.

These prevalence rates differed from the limited number of studies from the UK. One study found 4% of 11-17 year olds in London in a gang (Communities that Care, 2005) and another that 3.5% of 13 year olds in Edinburgh were in a gang (Smith and Bradshaw, 2005). Another study Sharp et al. (2006) in England and Wales, of 4000 10-19 year olds, found 6% were in delinquent youth groups. The difference between these studies and this one may be due to the use of different operational definitions and the geographical area in which this study took place.

In addition to these possible explanations for the high level of offending and gang membership a contributing factor could be that independent schools were not included in this study, only two Academies. Also additional influence is likely to have been due to the bias created by the way the schools gathered their data; this was discussed more fully in the limitations of the study in section 5.2.

5.8. **Depression**

Depression is the first area detailed in the model as an outcome that supports the continuing cycle of gang membership and offending behaviour. Emotional difficulties, including depression, were explored in this present study through the SDQ. This present study was not able to determine where in the model depression is situated nor if the emotional difficulties score was directly related to depression for this population and so the work of Defoe et al. (2013) was drawn upon for its placement within the model.

The mean emotional difficulties score from both the YOI sample (7.26) and the school sample (5.34) was higher than the normative score (2.8) generated by Meltzer et al. (2000) in the national study investigating the mental health of young people in the UK. This was also true when considering only the non-offending sample from the schools (4.73). A clinical significant score of 6 in an individual is considered borderline and above is abnormal.

In the school sample, this present study found that, when the covariates of school and year group were included in the statistical model, that gang members had significantly more emotional difficulties ($p<.01$) than the general population. This is unlike other studies that do not differentiate between gang and non-gang offenders. Non-gang members, in this present study, did not have a significantly different profile from the general population in this domain. The difference between non-gang offenders and gang members was also not statistically significant. The descriptive statistics showed an increase in reported difficulties but this was not statistically significant.

The mental health difficulties were considered separately for males and females. These results indicate that there is a significant association between gang membership status and emotional difficulties for males ($p<.01$) but not for females. More male gang members scored in the combined borderline and abnormal range than in the normal range. The reverse was true for the male general population where more scored in the normal range.

In adolescence the rates of depression in girls rise sharply as they get older, more so than in boys (Angold et al., 1999, Egger and Angold, 2006). Anxiety is also more prevalent for females than males in the general population (Merikangas, 2005). Statistical differences between males and females were not calculated in this study but the descriptive comparisons within gender revealed that associations were significant for males but not for females. This is not the picture that would be expected if the general mental health literature is consulted. The results from this present study show an association for

males that has not yet been explored, through research, previously and suggests this variable needs to be considered in future research.

Understanding the complex relationship between the variables that lead to and result from offending is in the early stages of exploration and Defoe et al. (2013), in a longitudinal study, found that delinquency is a cause of depression rather than the depression being the cause of delinquency. In relation to gang members this hypothesis has not been tested and the exploration is yet to start.

In light of the uncertainty, this current study treated the emotional difficulties as a dependent variable, an outcome of gang membership and offending behaviour, and it was found that gang members from the school population had a significantly higher mean for emotional problems than the general population (6 and 4.9 respectively).

In the YOI sample inferential statistics were not used due to the small sample size, it was therefore not possible to determine if the results were significant. The mean score for non-gang offenders was only slightly lower than for gang members (5.6 and 5.9 respectively). This may be explained by variables that were not measured, such as recent separation from home and friends, experiencing the court process or being in custody (either on remand or sentenced), all of which are known to have an impact on a young person's mental health.

The emotional difficulties reported could be related to anxiety or depression type disorders. Although there is literature suggesting depression and anxiety are related to gang involvement (Wood and Alleyne, 2010) research comparing gang members to non-gang members from the same community showed gang members exhibited high levels of psychopathic traits (Valdez et al., 2000). Psychopathy in young people has been linked to low anxiety (Frick et al., 1999) and high anxiety is not generally associated with delinquency (Farrington et al., 1988; Kerr et al., 1997). Depression on the other hand is associated with long-term maladjustment and interpersonal difficulties in

adolescence and there are poorer social outcomes and a higher risk of suicide for those that are also offenders (Fombonne et al., 2001).

Affective disorders are known to play some role in youth violence (Pliszka et al., 2000). Depression and anxiety are both internalising disorders, and are positively correlated with each other (Bird et al., 1993), but depression tends to be related to delinquency whereas anxiety is often seen as a protective factor for delinquency. It could be hypothesised that, as 'depression in adolescence can manifest itself as anger, which in turn is correlated with aggression' (Bailey, 2002), these young people are being turned away from mental health services due to 'only having a conduct disorder.' A substantial number of young people do not receive treatment as the depression, and other mental health problems, are misinterpreted as a behavioural problems. In these circumstances the young person's depression is not recognised and treated plus the labels associated with having a conduct disorder (bad, naughty, delinquent, etc.) could add to the young person's sense of worthlessness and hopelessness.

It is difficult to compare the results from this study with that of previous studies. Research has taken place internationally and has primarily considered the prison population's mental health needs (Cocozza and Skowyra, 2000), with little consistency in the results. This is demonstrated by studies (Timmons-Mitchell et al., 1997, Steiner et al., 1997, Cauffman et al., 1998, Pliszka et al., 2000, Aarons et al., 2001, Garland et al., 2001) where report rates for affective disorder vary from 2% to 88%.

This disparity may be due to the sample being taken at differing stages in the youth justice system, different operational definitions being applied and country where the research took place. For example, in the US, there is a higher likelihood that a young person will be imprisoned when compared to the UK. Imprisonment itself is associated with an increased risk of depression. In addition to this the prison regimes, size of the institutions and length of sentences are significantly different. What can be said from this present study

is that the results indicate that imprisoned young offenders score highly for emotional difficulties, whether or not they are gang members.

In addition to comparing the mean for emotional difficulties in the three gang status categories, a relationship was observed when the clinical categories were considered. A much larger proportion of gang members in the normal emotional difficulties range reported frequent and frequent serious offences than said they did not. This may be an indication that the emotional difficulties are due to depression, with the associated low motivation and low mood, rather than anxiety. This has potential policy implications which are discussed in section 5.3.9.

5.9. Investment in peer relationships

The peer problems item of the SDQ gives some insight into the peer relationships that the young people might have and assist with understanding the investment in peer relationship domain in the model. The mean peer problems score from both the sample from the YOI (5.96) and the sample from the school (3.8) was higher than the normative score (1.5) generated by Meltzer et al. (2000) in the national study investigating the mental health of young people in the UK. This was also true when considering only the non-offending sample from the schools (3.35). A clinically significant score for an individual is in the borderline range if it is 4-5 and above this is abnormal.

In the YOI and the school samples the gang members reported almost identical levels of peer relationship problems and no differences between groups were statistically significant. This was surprising as it has been argued that a key element of gang membership that is discussed in the literature is the importance of their relationships with other gang members. Research investigating the peer relationships of young people involved in a gang has often taken the form of semi-structured interviews with young people talking to an individual about their friendship groups. It is likely that this would give a different response then the method used in this present study. This present

study's questionnaire was completed privately and anonymously and so may have resulted in the young people responding differently.

Items on the questionnaire that resulted in the score were generated from the SDQ. The specific questions that are used to generate this result were:

- Rather solitary
- Does not have at least one good friend
- Is generally liked by others
- Picked on or bullied by other young people
- Gets on better with adults rather than young people.

In contrast the questions that investigate this area in the EYS are not used to determine the peer problems score, were only asked if a young person responded earlier that that they have a group of friends. If the answer was no then the questions were automatically skipped. These asked the young people why they joined their group. These questions were explored and did not generate any significant results:

- Feeling important
- Support and loyalty for each other
- Feeling respected
- Feeling a useful person
- Feeling like they belong
- Enjoying being in a group
- The group feels like a family.

In addition to the SDQ peer relationship and these items, the questionnaire asked about the young people's involvement in formal as well as informal groups. They reported being part of both formal and informal groups, including football, arts clubs and youth groups. There were no significant differences between the gang members, non-gang offenders and the general population. As (Aveline and Dryden, 1988) highlight, humans are part of a social group from birth and the majority of people remain a member of that group for most of their formative years.

Significant results were only generated between non-gang offenders and the general population and, when the genders were separated, there was a significant relationship for female but not for males. The frequencies gave a descriptive picture of more females scoring in the normal range for peer problems if they were in the general population or non-gang offenders whereas for gang members the distribution was more evenly distributed across normal, borderline and abnormal.

The findings from this study suggest that the young people have peer friendships and being a gang member or a non-gang member does not influence this either positively or negatively although there may be some benefit in exploring this further, particularly in relation to females. Steiner (1986) highlighted 'there are no groups without individuals and there are very few individuals who are not also functioning parts of groups' (285). It would appear that this is the case for the young people in this study.

Another area that would be helpful to explore is the significant relationship that was found, when considering only the offenders, in the group of young people that scored in the normal range for peer relationships. In this sample, 86% of gang members that scored as normal for peer relationships reported committing a serious offence whereas only 64% of non-gang offenders did. This changed when frequency was introduced to 71% of gang members reporting frequent and frequent serious offences whereas non-gang offenders reported 36% and 27% respectively. This suggests that the impact of having peer relationships could result in more frequent offending. Peer pressure may be a factor within this that would be worthwhile exploring further.

Young people in gangs seem unlikely to answer negatively to the peer relationship questions in the SDQ as they would have a peer group they identify with. Despite this, having peer relationships does not necessarily mean they are helpful relationships and they may, as the model suggests, reinforce the feelings of affirmation and acceptance as well as giving them status and company. The findings from the present study suggest that having

peer relationships many impact on the frequency of the offending behaviour in a negative way although this study was only able to determine that there is an association, further research would be needed.

5.10. ***Impact***

The impact of each of the outcomes (depression, rewards for criminal behaviour and investment in peer relationships) in the model was not explored specifically in this study. Instead, the study considered the impact of the difficulties expressed through the SDQ. Due to the nature of the impact scale there was a lower number of respondents than for the rest of the SDQ questions. 159 (44% of those who completed the SDQ) from the school and 32 (58%) from the YOI were included in this analysis.

The mean impact score from both the sample from the YOI (4) and the sample from the school (3.18) was higher than the normative score (0.2) generated by Meltzer et al. (2000). A clinically significant score individually is in the borderline range if it is 1 and abnormal if it is greater than one.

A statistically significant difference between gang members, non-gang offenders and the general population was not found. The impact supplement to the SDQ is an optional part of the tool. It is only completed by those who indicate that they believe their difficulties are having a negative impact on their life or those around them. Very few completed this section, the last on the questionnaire and those that did generally said their difficulties did not have an impact on their life.

The ICD-10 (World Health Organisation, 1992) defines most psychiatric disorders in terms of impact as well as symptoms. It explains that symptoms must result either in substantial distress for the child or in significant impairment in the child's ability to fulfil normal role expectations in everyday life. Bird et al. (1990) explains that defining disorders solely in terms of symptoms results in high case-ness rates, with most of the supposed cases not being significantly socially impaired by their symptoms, not seeming in

need of treatment, and not corresponding to what clinicians would normally recognise as cases.

Using a self-rating questionnaire with the offender population could generate a false impression of impact. It could be argued that the offending behaviour itself is a negative impact even if the young person does not believe it to be so. Parent and teacher SDQs would generally score higher for impact for these young people than the self-rating version. The validity of the results is therefore questionable.

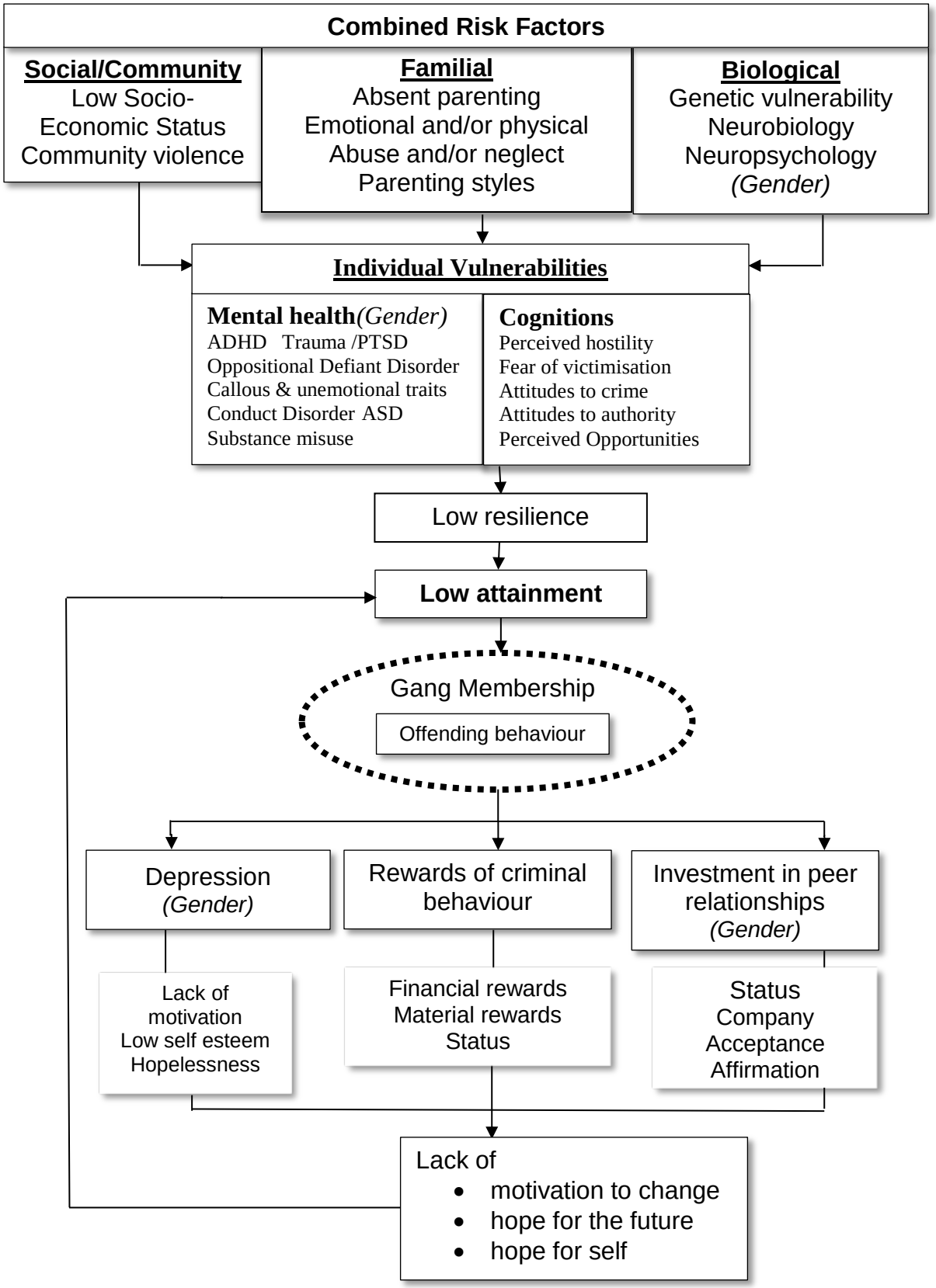
5.11. Revised preliminary conceptual model

The findings from this present study offer support to the elements of the preliminary conceptual model and some insight into possible adaptions to the model. A revised preliminary conceptual model is shown in figure 8.

It is clear that there is likely to be a complex picture of multiple variable that contribute to the individual vulnerabilities that lead to an increased likelihood of a young person joining a gang. It would be important that the model is more explicit in its representation about the combined impact of the variables. This change illustrates that it is a combination of factors that can lead to individual vulnerabilities.

The gender differences indicated in this present study suggest that the findings from previous studies have merit, for example, the genetic predisposition to conduct difficulties and offending discussed previously. Gender differences may also be relevant to the 'depression' domain as, unlike the general population (71%) and the offender population (50%), male gang members were less likely to score within the normal range for emotional difficulties (35%) and this was statistically significant ($p<.01$). For females there was no statistical difference found between female who were in the general population, non-gang offenders and gang members.

Figure 8 Revised preliminary conceptual model for gang involvement



Most studies have considered the male gang population. Those that have considered females have done so in relation to their sexual exploitation and role as girlfriends of gang members. This study revealed a group of female gang members who were involved in offending but who may have different mental health difficulties than the males, particularly in relation to peer relationships and pro-social behaviours.

Gender differences need attention throughout the model but specifically are required in the biological, depression and investment in peer relationships domains of the model. Notes, in italics, have been added to the model indicating where differences need to be considered specifically.

Overall, this present study indicates that gang members have more mental health difficulties than non-gang offenders and the general population. This finding is particularly strong for inattention and hyperactivity and pro-social behaviour. Individual difficulties, in the model, have remained the same for mental health, with the addition of ASD. Although a measure was not included for ASD some of the traits found in people with this disorder were found when pro-social difficulties were explored. This has been added to the model as a potential risk that also needs further exploration.

Emotional difficulties were more frequently reported by gang members than by the general population but not more so than the non-offender population who were not significantly different from the general population. This may indicate that the placement of depression within a model, specifically in relation to gang involvement, is appropriate and placing it after the gang membership offers a potential area of further exploration.

There remain questions about which combination of emotion difficulties, conduct problems, inattention and hyperactivity and other mental health difficulties discriminates between the three groups. Also, how these are influenced by a history of abuse or substance use. The data indicate that inattention and hyperactivity as well as less pro-social behaviour are more

frequently reported in the gang population. The combination of an abnormal emotional, hyperactivity and inattention and conduct score as well as abnormal hyperactivity and inattention with lower pro-social behaviour scores suggests further exploration is needed to understand the impact of co-morbid difficulties. Further adjustments to the model might be made following such an exploration.

The findings from this present study are similar to those found in a sample of boys living in the disadvantaged neighbourhoods of Montreal, Canada. This showed those with an individual profile combining higher levels of hyperactivity along with low levels of pro-sociality and anxiety preschool were much more likely to join a youth gang during early adolescence, compared to any other pattern of elevation in these dimensions (Lacourse et al., 2006).

A feature of ADHD is impulsivity which could result in a gang member acting in a daring and courageous way. This may be a positive trait within the context of a gang where hyper-masculinity brings status and so dampening it could lead to a lowering of the young person's status within the gang and affect compliance with treatments. This would maintain the cycle indicated in the model. One further consideration in the maintenance of this cycle is that, if the impulsivity is treated without assisting the young person in finding alternatives to gang activity, as well as introducing moral reasoning aimed at changing the cognitive vulnerabilities, the young people could become better offenders and be less likely to be caught.

With PTSD, offenders are more likely to have been the victims of childhood abuse of some kind, are more likely to misuse substances and have mental health problems. One hypothesis that could be tested in relation to gang members is that earlier trauma leads young people to be more likely to become gang members where there is increased exposure to violence and aggression but a group of peers that are also accustomed to high levels of violence and aggression. This could lead to an increase in PTSD but the access to a group that trades in substances could offer physical and emotional protections.

5.12. Future research priorities

Research priorities can be grouped into two areas. The first would be the development of the revised preliminary conceptual model. The second would be at intervention points. These are points within the model that may offer opportunity for intervention to prevent gang involvement, reduce the risks from gang involvement or offer the opportunity to exit the gang. This would enable services to be targeted at specific points in the young person's journey to and through gang involvement. These can then be tested and evaluated to see if there is an impact on other areas of the model.

Model Development

This study has contributed to the current evidence base by indicating that further research is needed and where that research may be most effectively directed. As has already been said, mental health difficulties are considered, in this present study, to be the dependent variable although it could be argued that they should be treated as the independent variable.

If considering ADHD, the test would be whether young people with ADHD, a neurological disorder likely to be influenced by a complex interplay between genetic, environmental, and psychosocial risk factors (Posthuma and Polderman, 2013), are more likely, as a result, to be involved in criminal activity and join a gang. Longitudinal studies that investigate the life courses of individuals with and without ADHD would be a helpful approach to exploring this. In addition to this autistic spectrum disorders would be a helpful addition to such a study.

This study, which is cross sectional in design, gives a snapshot of prevalence at one point in time, in two inner city schools and one YOI. The results suggest that there are different mental health profiles for offenders that are in gangs, non-gang offenders and the general population. The profile may be different for males and females. There may be an impact on the severity and

frequency of offending associated with specific mental health difficulties such as inattention and hyperactivity and any substance use. In order to understand whether mental health problems cause, partially cause or are a result of gang involvement and how this impacts on other variables, such as gender and offending type, longitudinal studies, where all the variables are considered, would be considered.

The present study has provided the first indication that young people who are gang members in the UK have a different psychopathology than other offenders and could be used as a foundation for future work to address the gap in current knowledge. Without the preliminary indication that has been provided by this present study, undertaking a costly (in terms of time and finances) longitudinal study would have been unwise. Understanding whether mental health problems cause, partially cause or are a result of gang involvement, would require longitudinal studies where all the variables are considered.

Now, these findings can be built upon in order to separate the variables from the other risk factors and outcomes as well as factors in relation to resilience. There are likely to be many pathways but mental health interventions may provide one important element in the approach to tackling gangs. Research would need to be developed to determine the causal links between gang membership and mental health problems and the medicating role of substance misuse and childhood abuse. For example, 'Is joining a gang a turning point in a young person's life that leads to an increase in mental health problems?' Causal inferences, using a group based trajectory model could be considered (Haviland and Nagin, 2007).

Testing a causal statement linking the two would determine whether a set of antecedent conditions would mean an outcome was inevitable (Rutter et al., 2001). Repeated measures of mental health need and gang involvement and activity, over time with the same population, may provide one means of identifying the shorter-term influences of gang membership and resulting experiences but more sophisticated models may prove more beneficial.

Research techniques are in the early developmental stages for understanding this type of complex interplay of variables on a developmental trajectory within the field of criminology (Haviland and Nagin, 2005, Haviland and Nagin, 2007, Haviland et al., 2008).

One example of the use of this trajectory modelling and propensity score modelling was in a study by Haviland and Nagin (2005) when they explored the relationship between gang membership and increased violence. From their analysis they were able to say that joining a gang leads to an increase in violence, rather than the reverse. This technique could provide a potential method for future work looking at the mental health difficulties of young people involved in street gangs.

Intervention points

Intervention points are points within the model that offer potential areas of development that prevent young people from joining a gang, minimise the risks they face when in a gang or offer the opportunity to exit a gang.

Early intervention could explore intervention at the initial risk factors stage or the individual vulnerabilities but may not be practical for services until attainment is affected. It would seem most advantageous if recognition of children who are underachieving is made early. This may be by recognising children that are either not making the progress year on year or not attaining the levels of achievement expected of them.

In addition to this, screening for mental health symptomatology could take place following a second fixed term exclusion from school. In order to do this a tool that is easy to administer, such as the parent and teacher SDQ, could be used to identify or exclude those that would benefit from a full assessment for mental health difficulties.

Services could then be developed to assist the young person to manage their hyperactivity and inattention and achieve their full potential. For the gang

population this may need to be achieved through the YOS, on orders such as Intensive Supervision and Surveillance Programmes (ISSP), where young offenders can be ordered to complete a training programme. A psychological training intervention that targets this impulsivity as well as offering moral reasoning, such as Reasoning and Rehabilitation 2 for ADHD (Young and Ross, 2007) could offer a potentially interesting intervention for an initial trial.

Gang members with ADHD that is either undiagnosed or untreated offer another potential area for intervention. The inattention, hyperactivity and impulsiveness in the YOS population often leads to a problematic cycle of non-compliance with court orders due to chaotic lifestyles, not remembering appointments and not considering consequences. This can result in orders being returned to court and harsher sentences being passed.

Potential times that offer opportunities for gang members to access interventions such as assessment and treatment are when they are motivated to change. These, often brief windows of opportunity can be when they are in a crisis, such as on arrest or in the Emergency department, or have been offered hope in some way.

A research priority for this would be the YOI population, when they are on remand or new to the secure estate. Within the sample in this present study, descriptive statistics showed gang members in the YOI reported more emotional difficulties that non-gang offenders but the sample size was too small to be able to determine if this was statistically significant. It is known that young people in YOIs, in the UK, are at increased risk of depression and suicide (Kroll et al., 2002). If a larger, longitudinal study were to take place it would be interesting to investigate if what is indicated in the descriptive statistics is actually significant.

Gang members may find it particularly difficult being separated from other gang members coupled with being in an institution where rival gang members are present. There is a lack of consistency and consensus about how to manage gang related matters in the UK prison setting with two distinctly

different policies enforcing the integration of rival gangs or operating a separation policy (Owers et al., 2010). Future research would need to consider additional variables that relate to the presence of prison gangs and the institutions policy of segregation or integration.

The question remains, at what point does the underachievement need to be tackled to ensure the best outcomes and, if left to mid adolescence, is it too late? Currently there is not the empirical evidence to support any response to these questions. Early intervention would seem most advantageous with early recognition of children who are underachieving by either not making the progress year on year or not attaining the levels of achievement expected of them. In addition to this, screening for mental health symptomatology could take place following a second fixed term exclusion from school. In order to do this a tool that is easy to administer, such as the parent and teacher SDQ, could be used to identify or exclude those that would benefit from a full assessment for mental health problems.

5.13. **Policy implications**

Some researchers believe that UK gangs are new, arising from the 'ghettoization' of particular areas (Pitts, 2007), whereas others suggest it is the use of the term 'gang' that is new, not the actual phenomenon itself (Hallsworth, 2006). Whether or not gangs have been in existence historically, Bennett and Holloway (2004), argue that it appears 'the UK may be entering a new phase in the development of street crime among young people and it is important to monitor this development for the purpose of policy and fundamental knowledge' 305.

The mental health needs is an area with multiple variables that acts in relation to gang membership but they are not the only variables. The findings from this study suggest that efficacious mental health services for gang members could be an important element of services for this this group, targeted at both the prevention and intervention stages.

Health services, as well as education services, social services, secure estates and the police need to work together to develop comprehensive strategies and services to tackle the complex needs of these young people and the impact it has on the community. These findings can be used to inform strategic service planning with health, social service, police and educational agencies.

Public policy has only been interested in gangs for the last decade and has been developed without robust evidence to support the interventions that have been commissioned. The subject of mental health has not been addressed in the assessments of need, reviews of evidence and resultant policies until very recently when Crown (2013) acknowledged the lack of evidence but the need to include CAMHS in services for gang members.

A sensible approach to developing any strategy that targets a specific service need would benefit from a model to underpin the work. The revised preliminary conceptual model of gang involvement can be used to form and test policy and the model can then be adapted as outcomes are measured and further evidence is generated. In relation to gang involvement, there are numerous models available but few consider mental health problems specifically.

Service developments, aimed at improving outcomes for young people, would beneficially be rooted in the model and can be tested and can be informed by the prevalence of particular difficulties in the population being targeted. Historically this has not been the case in relation to gangs in the UK, mainly due to the lack of evidence available and the desire of local authorities to be seen to act swiftly to address a problem with a high media focus. In addition, funding arrangements have meant that only short term funding has been available and services have been commissioned without a strategic overview.
The Crime and Disorder Act (Crown, 1998) stipulates that Youth Offending Services must work to ‘prevent offending and reoffending by children and young people.’ Discovering that there is potentially a subset of offenders who are inattentive and hyperactive gang members and they are more likely to

frequently commit serious offences could contribute to targeting services to a high risk group with treatments that are known to be effective. Further research, including randomised controlled trials, would be needed to test the hypothesis that if inattention and hyperactivity were treated then this would lead to reduced offending of a serious nature.

Screening for those at risk of or known to be involved in gang activity also appears to be a prudent approach. This could be undertaken in the school, healthcare settings or when arrested. It would be important that the screening is sensitive to externalizing psychopathology, given the findings of this study and other studies investigating the offending, the gang population have highlighted this as a relevant concern.

The findings from this present study indicate where it may be advantageous to target resources so that the needs of those who are at the highest risk are addressed. Studies have supported the assertion that the various causes of crime interact to amplify another's effect suggesting that adolescents with social and family risks are particularly likely to affiliate with deviant peers and to manifest behaviour problems (Bailey, 1996, Brody et al., 2001, Beyers et al., 2003, Brody et al., 2003, Coley et al., 2004, Simons et al., 2005, Hay et al., 2006). This study adds to this list, suggesting that mental health needs could also be contributing factor and so a beneficial component of any intervention approach.

Although not tested in this present study, attainment remains in the model. (Defoe et al., 2013) argues that the main policy implications of their results were that it would be 'more effective to target low achievement rather than hyperactivity or low socio economic status in intervention programs' (105). Although the key finding from their study was that, whatever the cause, the low attainment was the risk factor for delinquency and subsequent depression, addressing the root causes of the underachievement would seem a sensible approach for early intervention.

Not all root causes can be addressed easily and it would be likely that there are multiple reasons for a young person to underachieve but identifying the root causes for each individual could ensure services were tailored to individual need. The revised preliminary conceptual model aids policy makers to understand where to focus interventions and test their effectiveness.

There are concerns in the Youth Justice System about young offenders who do not comply with their court orders by missing appointments with their YOS officers. A young person who is inattentive and hyperactive may not have the concentration and organisational skills to manage their time effectively leading to them 'forgetting' or being distracted from attending their appointments. This becomes a cycle of offending, sentencing, breaching, return to court, more severe sentences, breaching, etc. Treatments that address the inattention and hyperactivity could be trialled to see whether this has an impact on sentence compliance.

Identifying individuals at risk of offending carries substantial relevance for commissioners in the local authorities (health, social care, youth justice and education), as it may enable them to focus scarce resources on those most in need, by targeting the use of prevention and intervention initiatives. Effective mental health services for gang members may be an important element of helping these young people as individuals but, as yet, it is not clear if, by addressing the mental health needs, it will impact on the level or severity of criminality.

There are economic consequences of gang activity in the form of increased crime and the cost of young people entering the youth justice system. From April 2013, when Clinical Commissioning Groups [CCGs] formed, the responsibility for paying for the healthcare of young offenders in YOIs no longer is the responsibility of local commissioners. CCGs will commission service in CAMHS and in YOS. YOI services will be commissioned centrally through NHS Commissioning Board.

These health bodies are different governmental departments from the Youth Justice System and hold different priorities. It would be important that they work together to improve the health of these young people, whether or not it has an impact on offending type and rates. The Youth Justice System's aim is to prevent offending and reoffending by young people and therefore funding is usually directed at achieving this aim. Although this study found that gang members had more emotional difficulties than the general population, the data suggests that treating the emotional difficulties may not have an impact on the offending behaviour whereas inattention and hyperactivity did. Further research would be needed to explore the generalisability of these findings and size of the influence as parametric tests were not possible due to the small numbers in each category.

Previously, two gang focused Cochrane reviews, both related to preventing involvement in gangs (Fisher et al., 2008a, Fisher et al., 2008b) were carried out and neither specifically addressed nor considered mental health as part of the review. They looked at any factors that may be helpful for preventing gang involvement and concluded that there were no randomised controlled trials or quasi-randomised controlled trials.

In addition, a UK commissioned systemic review of interventions (Hodgekinson et al., 2009) where only US studies were considered, found that the evidence did not justify making any policy recommendations. A small positive effect was noted for comprehensive programmes but once again mental health was not mentioned. This present study adds a new dimension to these reviews and indicates that including mental health difficulties, when considering reviews of research about intervention programmes, would be a worthwhile element to include.

As young people involved in gangs do not tend to engage with health services there is a potential that their health needs will be overlooked. A study that considered the cost of care for young offenders found that anti-social young people use fewer services in the community, thus appearing to incur less cost (Barrett et al., 2006). However, the concurrent cost of their criminal activity

overshadows this, showing that they have difficulties when not engaged with the healthcare system. In addition, it is not clear how the disenfranchisement of the young people from the healthcare systems will impact on society and the individual.

Current practice in commissioning and services for gang related matters has been inconsistent and government strategy has offered little specific direction or guidance. Services are commissioned on a short term basis and they are rarely supported by evidence, evaluated by longitudinal studies or targeted at mental health needs. Commissioners and service providers currently have to make decisions about the strategic direction and commissioning of gang services without robust empirical studies to inform them.

Whole population studies are rare and the cost makes it prohibitive. Identifying young people at risk for gang involvement and continuous offending is relevant when considering policy and service development. In relation to mental health, estimates of prevalence rates rather than mean scores tend to be easier for commissioners to interpret when planning services although Rose and Day (1990) argued that population means may be a valid method for comparing health across groups or monitoring trends over time.

Some work has taken place to see if measuring population means is a valid approach in adult psychiatry but it is a relatively new field in child psychiatry but Goodman and Goodman (2011) investigated whether the mean SDQ scores provide an unbiased method of making comparisons. Their study indicated that, when considering a combination of the parent, teacher and young person SDQ, the SDQ mean score showed a linear relationship with population prevalence with R^2=.89-.95. Using the youth questionnaire alone decreased R^2 to .71, where the young people tended to underestimate their difficulties but they concluded that the youth SDQ performed well, and was validated as a tool for generating general prevalence estimates based on these mean SDQ scores. The findings from this study could contribute to the local service development by offering a means to estimate need.

5.14. Contribution of this present study to knowledge

Despite the limitations described above, the findings from the present study contribute new knowledge and make a distinctive and unique contribution to the gang literature. Previous studies have primarily drawn upon the wider offender literature and made assumption about the gang population or have been conducted outside the UK.

This study has demonstrated that gang members have a different mental health profile to other offenders. There is a higher level of mental health problems when compared to both the general population and offenders that are not involved in gangs. Also this study offers a preliminary indication that gender may be an important variable to consider with females experiencing difficulties in different areas to males. The study revealed that there is an indication of different patterns according to specific mental health difficulties and their association with more frequent and serious offending.

This present study demonstrated that gang members have a higher mean score for inattention and hyperactivity than both the general population and non-gang offenders which was highly significant statistically. These results are supported by Corcoran et al. (2005) who found that gang members had more problems with inattention than other offenders.

In addition to this, the study found gang members who scored in the borderline and abnormal clinical range for attention and hyperactivity reported significantly more frequent serious offences. This could be suggestive of either those with ADHD acting impulsively or being easily influenced and lead by the gang to commit more frequent serious offences. Alternatively, the gang member's increased exposure to violence could lead to trauma that is expressed in inattention and hyperactivity.

This present study also found that gang members reported significantly more emotional difficulties than both non-gang offenders and the general

population. Gang offenders were not significantly different from the non-gang offenders who also were not significantly different from the general population. This contributes new knowledge to the body of literature about offender's mental health. Previous studies have found offenders have more emotional difficulties than the general population but the subgroups in relation to gang membership have not previously been explored.

The findings from this study could add to the findings from the prospective longitudinal US study (Defoe et al., 2013) that suggests that hyperactivity and low socioeconomic status were separate variables that caused low achievement, which in turn caused delinquency, which in turn caused depression. This hypothesis could be tested to further the knowledge needed to address the needs of this group of young people.

Chapter 6: Conclusion

The Chief Executive of the Healthcare Commission is reported to have said, "Healthcare for offenders is not what it should be—for adults and young people. This must change, not just because it is the right thing to do for individuals, but because it is the right thing to do if we are serious about addressing the causes of crime" (The Lancet, 2009).

The literature suggests that gang membership has a detrimental effect on a young person's mental health particularly if literature about related subjects, such as offender mental health and gangs specifically, are considered. However, no studies related to this area specifically were identified that robustly consider the issue. If the multiple risks associated with gang involvement are to be tackled by all the agencies involved with these young people then all possible contributing factors need to be researched thoroughly so that recommendations for policy and practice can be made.

The few studies that did seek to understand the relationship between mental health and gang membership were universally not clear how their conclusions were drawn or what operational definition was used. This has led to the results appearing to contradict one another and an uncertainty about the validity of the results. This limited body of literature in the UK has meant that papers exploring this area specifically could not be considered.

What is clear from the literature is that there are serious, negative consequences of gang involvement for young people, families and communities. These justify concern and action to prevent and reduce gang-related offending. Risk operates in a range of domains, usually categorised as individual, family, school, peers and neighbourhood. The outcomes are a result of the complex interaction between these risk and protective variables, each actively influencing the other.

If it is established that gang members have significantly more mental health problems than non-gang offenders then future research can be developed.

Current literature is unclear about what the developmental trajectory is and whether gang membership alters the trajectory of a young person's mental health. The interplay could have a reciprocal relationship (Elder, 1998, Robins et al., 1999) where increased mental health problems lead to gang membership, which leads to a further increase in mental health problems.

The literature supported the assertion that young offenders have higher rates of mental disorders where gang membership correlated with an increase in problem behaviour, such as offending, and negative developmental outcomes. Despite this, and the evidence of increased exposure to trauma, it was not clear if the same negative effects on the mental health of gang members were present.

In the UK gang research is less well established than in other countries such as US where the literature pertaining to offending generally and the mental health of young offenders was found to have been developed to a much greater extent. Whilst gang membership and serious offending are not coterminous, there has been found to be a substantial overlap in the risk factors for both, and a well-documented relationship between the two. The present study found frequent, serious and frequent serious offending was reported more by gang members than non-gang offenders. These findings are supported by well described serious and negative consequences of gang involvement for the individual, their family and society and warrant concern and further research.

A preliminary conceptual model of gang involvement was developed as a result of the literature. Aspects of this model were tested in this present study which used a cross sectional questionnaire survey of a sample of young people from two inner city secondary schools and a Young Offenders Institution. The questionnaire incorporated two instruments the Eurogang Youth Survey [EYS] and the Strengths and Difficulties Questionnaire [SDQ] and the primary analysis compared the mental health needs of young people involved in gang members, non-gang offenders and the general population.

The aim of the study was to determine if there is a difference between the mental health difficulties experienced by young people:

- Involved in gangs (and by definition offending)?
- Not involved in gangs but offending?
- Neither gang members nor offending?

Gang members had both a significantly higher mean for hyperactivity and inattention than both the general population and non-gang offenders. Non-gang offenders had a higher mean for inattention and hyperactivity than the general population. Although this research tells us that there is an increase in inattention and hyperactivity symptoms in gang members, it does not tell us if this increase is a cause or an outcome of being involved in a gang, or if there is a complex interaction between the two variables. When gang members were within the combined borderline and abnormal range for inattention and hyperactivity they were significantly more likely to report that they were frequent serious offenders. Despite this, they may still have under reported their frequency and severity of offending.

This was in contrast to the findings for emotional difficulties where gang members reported significantly higher emotional difficulty scores than the general population but not non-gang offenders but this did not impact on the type of offending. Also, non-gang members did not score significantly higher than the general population in this area, a development on previous offender research that found offenders had more emotional difficulties than the general population. These studies did not consider gang and non-gang offenders separately.

As there appears to be an association between inattention and hyperactivity and gang membership further work is justified to understand this in more depth so that appropriate interventions can be developed. This further exploration would specifically attempt to understand whether this inattention and hyperactivity is a dependant or independent variable or a complex relationship between the two and if it is linked to ADHD or PTSD or a combination of the two.

The main limitation of this study is its cross-sectional design, which does not allow us to rule out alternative explanations of the obtained relationships. For instance, it is possible that youth who engage in criminal activity, are exposed to violence, or are suicidal may be more likely to join gangs. In addition, exposure to violence and gang activity in their neighbourhood could contribute to increased mental health problems, particularly associated with trauma. Clearly, longitudinal investigations of gang membership and its precursors and consequences are needed.

The results from this study could be used as a foundation for future work as well as to address the gap in current knowledge. For example, 'Is joining a gang a turning point in a young person's life that leads to an increase in mental health problems?' or 'Does an increase in certain types of mental health problems lead to a young person being more likely to be involved in gangs?' In addition the results contributed to further developments of the preliminary conceptual model.

In summary, the findings from the present study contribute new knowledge and make a distinctive and unique contribution to the gang literature. They provide evidence to support the idea that mental health difficulties, in particular those associated with inattention and hyperactivity, are a feature of a pathway to and through gang membership, particularly for gang members who are frequent serious offenders.

References

AARONS, G. A., BROWN, S. A., HOUGH, R. L., GARLAND, A. F. & WOOD, P. A. 2001. Prevalence of adolescent substance use disorders across five sectors of care. *Journal of the American Academy of Child and Adolescent Psychiatry,* 40**,** 419-426.

ABBOTT, A. 1997. Of time and space: The contemporary relevance of the Chicago school. *Social Forces,* 75**,** 1149-1182.

ABBOTT, A. 1999. *Department and discipline: Sociology at one hundred.,* Chicago, University of Chicago Press.

ABER, J. L., BENNETT, N. G., CONLEY, D. C. & LI, J. 1997. The effects of poverty on child health and development. *Annual Review of Public Health.,* 18**,** 463-483.

ACHENBACH, T. M. 1991. *Manual for Youth Self-report and 1991 profile.,* Burlington, Vermont, University of Vermont Department of Psychiatry.

ACHENBACH, T. M. & EDELBROCK, C. 1981. Behavioral problems and competencies reported by parents of normal and disturbed children aged 4- 16. *Monographs of the Society for Research in Child Development,* 46.

ACHENBACH, T. M. & RESCORLA, L. A. 2001. *Manual for the ASEBA school-age forms & profiles.,* Burlington, VT, University of Vermont, Research Center for Children, Youth, & Families.

AGER, A. 2012. Annual Research Review: Resilience and child well-being - public policy implications. *Journal of Child Psychology and Psychiatry and Allied Disciplines.*

AGNEW, R. 1984 Goal achievement and delinquency. *Sociology and Social Research.* 68, 435-499.

AGNEW, R. 1992 Foundation for a general strain theory of crime and delinquency. *Criminology,* 30, 47– 87.

AKERS R L 1997 *Criminological theories: Introduction and evaluation* (2nd edition). Roxbury, Los Angeles.

ALDRIDGE, J. & MEDINA, J. 2008. Youth Gangs in an English City: Social Exclusion, Drugs and Violence: Full Research Report
ESRC End of Award Report. RES-000-23-0615 ed. Swindon.

ALDRIDGE, J., MEDINA, J. & RALPHS, R. 2008. Dangers and problems of doing 'gang' research in the UK. *In:* VAN GEMERT, F., PETERSON, D. & LIEN, I.-L. (eds.) *Street Gangs, Migration and Ethnicity.* Devon: Willan Publishing.

ALEXANDER, C. E. 2000. *The Asian gang: ethnicity, identity, masculinity* , Oxford, berg., Oxford.

ALLEYNE, E. & WOOD, J. L. 2010. Gang involvement: psychological and behavioral characteristics of gang members, peripheral youth, and nongang youth. *Aggressive behavior,* 36**,** 423-436.

AMERICAN PSYCHIATRIC ASSOCIATION 2013. *Diagnostic and Statistical Manual of Mental Disorders V.*

ANGOLD, A., COSTELLO, E. J., ERKANLI, A. & WORTHMAN, C. M. 1999. Pubertal changes in hormone levels and depression in girls. *Psychological Medicine,* 29**,** 1043-1053.

ARKSEY, H. & O'MALLEY, L. 2005. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology,* 8**,** 19-32.

ARMSTRONG, D., HINE, J., HACKING, S., ARMAOS, R., JONES, R., KLESSINGER, N., FRANCE, A. (2005) *Young people and crime. The on track schools survey.* Home Office research Study. 278. Home Office, London.

ASBURY, H. 1927. *Gangs of New York.* , New York, Capricorn.

ATKINS, D. L., PUMARIEGA, A. J., ROGERS, K., MONTGOMERY, L., NYBRO, C., JEFFERS, G. & SEASE, F. 1998. Mental health and incarcerated youth, I: prevalence and nature of psychopathology. *Journal of Child and Family Studies.,* 8**,** 193-204.

AVELINE, M. & DRYDEN, W. 1988. *Group theory in Britain,* London, Tavistock Publishers.

BAILEY, S. 1996. Adolescents who murder. *Journal of Adolescence,* 19**,** 19-39.

BAILEY, S. 1999. The interface between mental health, criminal justice and forensic mental health services for children and adolescents. *Current Opinion in Psychiatry,* 12**,** 425-432.

BAILEY, S. 2002. Violent children: A framework for assessment. *Advances in Psychiatric Treatment,* 8**,** 97-106.

BAILEY, S. 2003. Young offenders and mental health. *Current Opinion in Psychiatry,* 16**,** 581-591.

BALL, R. A. & CURRY, G. D. 1995. The logic of definition in criminology: Purpose and methods for defining "gangs." *Criminology,* 33**,** 225-245.

BARKER, E. D., TREMBLAY, R. E., NAGIN, D. S., VITARO, F. & LACOURSE, E. 2006. Development of male proactive and reactive physical aggression during adolescence. *Journal of Child Psychology and Psychiatry and Allied Disciplines,* 47**,** 783-790.

BARKLEY, R. A., FISCHER, M., SMALLISH, L., FLETCHER, K. (2004). Young adult follow-up of hyperactive children: Antisocial activities and drug use. *Journal of Child Psychology and Psychiatry,* 45, 195-211.

BARRETT, B., BYFORD, S., CHITSABESAN, P. & KENNING, C. 2006. Mental health provision for young offenders: Service use and cost. *British Journal of Psychiatry,* 188**,** 541-546.

BEAUTRAIS, A. L., JOYCE, P. R. & MULDER, R. T. 1996. Risk factors for serious suicide attempts among youths aged 13 through to 24 years. *Journal of American Academy of Child and Adolescent Psychiatry,* 35**,** 1174-1182.

BEAVER, K. M., DELISI, M., VAUGHN, M. G. & BARNES, J. C. 2010. Monoamine oxidase A genotype is associated with gang membership and weapon use *Comprehensive Psychiatry.,* 51**,** 130-134.

BENDIXEN, M., ENDRESEN, I. M. & OLWEUS, D. 2006. Joining and leaving gangs: Selection and facilitation effects on self-reported antisocial behaviour in early adolescence. . *European Journal of Criminology,* 3**,** 85-114.

BENNETT, D. S., PITALE, M., VORA, V. & RHEINGOLD, A. A. 2004. Reactive vs. proactive antisocial behavior: Differential correlates of child ADHD symptoms? *Journal of Attention Disorders,* 7**,** 197-204.

BENNETT, T. & HOLLOWAY, K. 2004. Gang membership, drugs and crime in the UK. *British Journal of Criminology,* 44**,** 305-323.

BEYERS, J. M., BATES, J. E., PETIT, G. S. & DODGE, K. A. 2003. Neighborhood structure, parenting processes and the development of youths' externalising behavior: A multilevel analysis. *American Journal of Community Psychology.,* 31**,** 35-53.

BIEDERMAN, J., Petty, C. R., SPENCER, T. J., WOODWORTH, K. Y., BHIDE, P., ZHU, J., FARAONE, S. V. 2013. Examining the nature of the comorbidity between pediatric attention deficit/hyperactivity disorder and post-traumatic stress disorder. *Acta Psychiatrica Scandinavica.* 128, 1, 78-87.

BIRD, H. B., YAGER, T. J., STAGHEZZA, B., GOULD, M. S., CANINO, G. & RUBIO-STIPEC, M. 1990. Impairment in the epidemiological measurement of childhood psychopathology in the community. *Journal of the American Academy of Child and Adolescent Psychiatry,* 29**,** 796-803.

BIRD, H. R., GOULD, M. S. & STAGHEZZA, B. M. 1993. Patterns of diagnostic comorbidity in a community sample of children aged 9 through 16 years. *Journal of the American Academy of Child and Adolescent Psychiatry,* 32**,** 361–68

BLOCHER, D., HENKEL, K., RETZ, W., RETZ-JUNGINGER, P., THOME, J. & M, R. S. 2001. Symptoms from the spectrum of attention-deficit/ hyperactivity disorder (ADHD) in sexual delinquents. *Fortschr Neurol Psychiat:,* 69**,** 453-459.

BOSWELL, G. 1995. *Violent victims. The prevalence of abuse and loss in the lives of Section 53 offenders.,* London, The Prince's Trust.

BOYLE, M. H., LIPMAN, E. L. 2002 Do places matter? Socioeconomic disadvantage and behavioral problems of children in Canada. *Journal of Consulting and Clinical Psychology,* 70, 2, 378–389.

BRADSHAW, P. 2005. Terror and young team: Youth Gangs and delinquency in Edinburgh. *In:* DECKER, S. H. & WEERMAN, F. W. (eds.) *European street gangs and troublesome youth groups.* Walnut Creek. CA.: Altramira Press.

BRAME, B., NAGIN, D. S. & TREMBLAY, R. E. 2001. Developmental trajectories of physical aggression from school entry to late adolescence. *Journal of Child Psychology and Psychiatry and Allied disciplines.,* 42**,** 503-512.

BRIERE, J. 1996. *Trauma Symptom Checklist for Children: Professional manual..* Florida, Lutz.

BRITISHBROADCASTINGCORPORATION. 2007. *Police identify 169 London gangs* [Online]. Available: http://news.bbc.co.uk/1/hi/england/london/6383933.stm [Accessed 25th November 2009 2009].

BRODY, G. H., GE, X., CONGER, R. D., GIBBONS, F. X., MURRY, V. M., GERRARD, M. & SIMMONS, R. L. 2001. The influence of neighbourhood disadvantage, collective socialization, and parenting on African American children's affiliation with deviant peers. *Child Development,* 72**,** 1231-1246.

BRODY, G. H., MURRY, V. M., GE, X., SIMONS, R. L., GIBBONS, F. X., GERRARD, M. & CONGER, R. L. 2003. Neighbourhood disadvantage moderates association of parenting and older sibling problems, attitudes and behavior with conduct disorders in African American children. *Journal of Consulting and Clinical Psychology.,* 71**,** 211-222.

BROIDY, L. M., TREMBLAY, R. E., BRAME, B., FERGUSSON, D., HORWOOD, J. L. & LAIRD, R. 2003. Developmental Trajectories of childhood disruptive behaviours and adolescent delinquency: a six site, cross sectional study. 39, 2, 222-245. *Developmental Psychology.,* 39**,** 222-245.

BULLIS, M. & YOVANOFF, P. 2006. Idle hands: Community employment experiences of formerly incarcerated youth. *Journal of Emotional and Behavioral Disorders,* 14**,** 74-85.

BULLOCK, K. & TILLEY, N. 2002. Shootings, gangs and violent incidents in Manchester: Developing a crime reduction strategy. *Crime reduction research series.*

BULLOCK, K. & TILLEY, N. 2008. Understanding and tackling gang violence. *Crime Prevention and Community Safety.,* 10**,** 36-47.

BULLOCK, R. & LITTLE, M. 1999. The interface between social and health services for children and adolescent persons. *Current Opinion in Psychiatry,* 12**,** 421-424.

BYNNER, J. 2001. Childhood risks and protective factors in social exclusion. *Children and society.,* 15**,** 285-301.

CALLAGHAN, J., PACE, F., YOUNG, B. & VOSTANIS, P. 2003. Primary mental health workers within youth offending teams: a new service model. *Journal of Adolescence,* 26**,** 185-199.

CASPI, A., MCCLAY, J., MOFFITT, T. E., MILL, J., MARTIN, J. & CRAIG, I. W. 2002. Role of genotype in the cycle of violence in maltreated children. *Science.,* 297**,** 851-4.

CATALANO, R. F. & HAWKINS, J. D. 1996. The social developmental model:a theory of anti-social behaviour. *In:* HAWKINS, J. D. (ed.) *Delinquency and Crime: Currnet Theories.* New York: Cambridge.

CAUFFMAN, E., FELDMAN, S., WATERMAN, J. & STEINER, H. 1998. Posttraumatic stress disorder among female juvenile offenders. . *Journal of the American Academy of Child and Adolescent Psychiatry.,* 37**,** 1209-1216.

CHETTLEBURGH, M. C. 2007 *Young thugs: Inside the dangerous world of Canadian street gangs.* Toronto, Canada: HarperCollins Publishers Ltd.

CHILES, J. A., MILLER, M. L. & COX, G. B. 1980. Depression in an adolescent delinquent population. *Archives of General Psychiatry,* 37**,** 1179-1184.

CHITSABESAN, P. & BAILEY, S. 2006. Mental health, educational and social needs of young offenders in custody and in the community. *Current Opinion in Psychiatry,* 19**,** 355-360.

CHITSABESAN, P., KROLL, L., BAILEY, S., KENNING, C., SNEIDER, S., MACDONALD, W. & THEODOSIOU, L. 2006. Mental health needs of young offenders in custody and in the community. *British Journal of Psychiatry,* 188**,** 534-540.

CLAPHAM, C. & NICHOLSON, J. 2005. *The Concise Oxford Dictionary of Mathematics.* , Oxford University Press.

COCOZZA, J. & SKOWYRA, K. 2000. Youth with Mental Health Disorders: Issues and Emerging Responses. *Office of Juvenile Justice and Delinquency Prevention Journal,* 7**,** 3-13.

COHEN, P., COHEN, J. & BROOK, J. S. 1993. An epidemiological study of disorders in late childhood and adolescence, II: persistence of disorders. *Journal of Child Psychol ogy and Psychiatry.,* 34**,** 869-877.

COLEY, R. L., MORRIS, J. E. & HERNANDEZ, D. 2004. Out of school care and problem behavior trajectories among low-income adolescents: Individual, family and neighborhood characteristics as added risks. *Child Development,* 75**,** 948-965.

COMMUNITIES THAT CARE 2005. Findings from the Safer London Youth Survey 2004. Metropolitan Police Service. London.

CORCORAN, K. & FISCHER, J. 2000. *Couples, children and families.,* New York, Free Press.

CORCORAN, K., WASHINGTON, A. & MEYERS, N. 2005. The Impact of Gang Membership on Mental Health Symptoms, Behavior Problems and Antisocial Criminality of Incarcerated Young Men. *Journal of Gang Research,* 12**,** 25-35.

COSTELLO, E. J., PINE, D. S., HAMMEN, C., MARCH, J. S., PLOTSKY, P. M., WEISSMAN, M. M., BIEDERMAN, J., GOLDSMITH, H. H., KAUFMAN, J., LEWINSOHN, P. M., HELLANDER, M., HOAGWOOD, K., KORETZ, D. S., NELSON, C. A. & LECKMAN, J. F. 2002. Development and natural history of mood disorders. *Biological Psychiatry,* 52**,** 529-542.

CÔTÉ, S., TREMBLAY, R. E., NAGIN, D. S., ZOCCOLILLO, M. & VITARO, F. 2002. Childhood Behavioral Profiles Leading to Adolescent Conduct Disorder: Risk Trajectories for Boys and Girls. *Journal of the American Academy of Child and Adolescent Psychiatry,* 41**,** 1086-1094.

COVEY, H. 2003. *Street gangs throughout the world.*, Springfield IL, Thomas.

CROWN 1998. The Crime and Disorder Act. London.

CROWN 2003a. Every Child Matters. Department for Families, Education and Skills. Nottingham: DfES publications. HMSO.

CROWN 2003b. National Service Framework. Department of Health. HMSO.

CROWN 2004. The Children's Act. Department for Families, Education and Skills. Nottingham: DfES publications.

CROWN 2007. The Children's Plan. Department of Children, Schools and Families. Nottingham: DCSF publications.

CROWN 2008. Children and young people in mind: the final report of the National CAMHS Review. Department of Children, Schools and Families. Nottingham.: DCSF publications.

CROWN 2009a. Commissioning healthcare in prisons. The results of joint work between the Healthcare Commission and Her Majesty's Inspectorate of Prisons in 2007/08. *In:* PRISONS, C. F. H. A. A. I. A. H. M. S. I. O. (ed.). London: HMSO.

CROWN 2009b. New Horizons. Department of Health. London.: HMSO.

CROWN 2010a. Keeping children and young people in mind: the Government's full response to the independent review of CAMHS. Department of Health.. London: HMSO.

CROWN 2010b. Safeguarding children and young people who may be affected by gang activity. Department of Children, Schools and Families. London: HMSO.

CROWN 2011. Ending gang and youth violence. Home Office. HMSO.

CROWN 2012a. No health without mental health. Department of Health. HMSO.

CROWN 2012b. Positive for Youth. Department for Education. HMSO.

CROWN 2012c. Trident FAQ. Mayor's Office for Policing and Crime. London.

CROWN 2013. Partnership anti-gangs strategy. London Crime Reduction Board. London: HMSO.

DAVIS, D. L., BEAN, G. J., SCHUMACHER, J. E. & STRINGER, T. L. 1991. Prevalence of emotional disorders in a juvenile justice institutional population. *American Journal of Forensic Psycholology.,* 9**,** 5-17.

DAVIS, K. 2003. Two Options for Oversampling in the National Health Interview Survey. *In:* MEETINGS, J. S. (ed.) *Section on Survey Research Methods.*

DECKER, S. H. & WEERMAN, F. M. 2005. *European street gangs and troublesome youth groups: findings from the Eurogang Research Program.*, Landham., Altarmari Press.

DEFOE, I. N., FARRINGTON, D. P. & LOEBER, R. 2013. Disentangling the relationship between delinquency and hyperactivity, low achievement,

depression, and low socioeconomic status: Analysis of repeated longitudinal data. *Journal of Criminal Justice,* 41**,** 100-107.

DEWBERRY, C. 2004. *Statistical methods for Organisational research. Theory and Practice.,* Oxon., Routledge.

DISHION, T. J., DODGE, K. A. & LANSFORD, J. E. 2006. Findings and recommendations: A blueprint to minimize deviant peer influence in youth interventions and programs.Dodge K A, Dishion T J, Lansford J E (Eds), Deviant peer influences in programs for youth: Problems and solutions (366–394). New York: Guilford. *In:* DODGE, K. A., DISHION, T. J. & LANSFORD, J. E. (eds.) *Deviant peer influences in programs for youth: Problems and solutions.* New York: Guildford.

DIXON, A., HOWIE, P. & STARLING, J. 2004. Psychopathology in female juvenile offenders. *Journal of Child Psychology and Psychiatry and Allied Disciplines,* 45**,** 1150-1158.

DOLAN, M., HOLLOWAY, J., BAILEY, S. & SMITH, C. 1999. Health status of juvenile offenders. A survey of young offenders appearing before the juvenile courts. *Journal of Adolescence,* 22**,** 137-144.

DOUYON, R., MARCELIN, L. H., JEAN-GILLES, M. & PAGE, J. B. 2005. Response to trauma in Haitian youth at risk. *Journal of Ethnicity in Substance Abuse,* 4**,** 115-138.

DUKES, R. L., MARTINEZ, R. O. & STEIN, J. A. 1997. Precursors and consequences of membership in youth gangs. *Youth and Society,* 29**,** 139-165.

DUPÉRÉ, V., LACOURSE, É., WILLMS, J. D., VITARO, F. & TREMBLAY, R. E. 2007. Affiliation to youth gangs during adolescence: The interaction between childhood psychopathic tendencies and neighborhood disadvantage. *Journal of Abnormal Child Psychology,* 35**,** 1035-1045.

ECONOMIC AND SOCIAL RESEARCH COUNCIL 2009. Youth gangs: the facts behind the headlines. Making a Difference. Economic and Social Research Council.

EDGAR, K. & RICKFORD, D. 2009. *Too little, too late: an independent review into the unmet mental health need in prisons.,* London, Prison Reform Trust.

EGGER, H. L. & ANGOLD, A. 2006. Common emotional and behavioral disorders in preschool children: Presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry,* 47**,** 313-337.

EITLE, D., GUNKEL, S. & VAN GUNDY, K. 2004. Cumulative exposure to stressful life events and male gang membership. *Journal of Criminal Justice,* 32**,** 95-111.

ELANDER, J. & RUTTER, M. 1996. Use and development of the Rutter Parents' and Teachers' Scales. *International Journal of Methods in Psychiatric Research.,* 6**,** 63-78.

ELDER, J., G.H. 1998. The life course as developmental theory. *Child Development,* 69**,** 1-12.

EPPRIGHT, T. D., KASHANI, J. H., ROBISON, B. D. & REID, J. C. 1993. Comorbidity of conduct disorder and personality disorders in an incarcerated juvenile population. *American Journal of Psychiatry.,* 150**,** 1233-1236.

ESBENSEN, F. A. & HUIZINGA, D. 1993. Gangs, Drugs, and Delinquency in a Survey of Urban Youth. *Criminology,* 31**,** 565-589.

ESBENSEN, F. A. & WEERMAN, F. M. 2005. Youth Gangs and Troublesome Youth Groups in the United States and the Netherlands: A Cross-National Comparison. *European Journal of Criminology,* 2**,** 5-37.

ESBENSEN, F. A., WINFREE JR, L. T., HE, N. & TAYLOR, T. J. 2001. Youth gangs and definitional issues: When is a gang, and why does it matter? *Crime and Delinquency,* 47**,** 105-130.

ESSEX, M. J., KRAEMER, H., C., ARMSTRONG, J. M., BOYCE, T. W., GOLDSMITH, H., H., KLEIN, M., H., WOODWARD, M., KUPFER, D., J., 2006 Exploring Risk Factors for the Emergence of Children's Mental Health Problems. *Archives of General Psychiatry.* 63, 11, 1246-1256.

FACUNDO, F. R. G. & PEDRÃO, L. J. 2008. Personal and interpersonal risk factors in the consumption of illicit drugs by marginal adolescents and young people from juvenile gangs. *Factores de riesgo personales e interpersonales en el consumo drogas ilícitas en adolescentes y jóvenes marginales de bandas juveniles,* 16**,** 368-374.

FAGAN, A. A. 2003. The short- and long-term effects of adolescent violent victimization experienced within the family and community. *Violence & Victims,*18.

FAGAN, J. E. 1996. Gangs, drugs, and neighborhood change. *In:* HUFF, C. R. (ed.) *Gangs in America.* 2nd ed. Thousand Oaks, CA: Sage Publications.

FARRELL, L. J. & BARRETT, P. M. 2007. Prevention of Childhood Emotional Disorders: Reducing the Burden of Suffering Associated with Anxiety and Depression. *Child and Adolescent Mental Health.,* 12**,** 58-65.

FARRINGTON, D. P. 1986. Age and crime. *Crime and justice. ,* 7**,** 189-250.

FARRINGTON, D. P., GALLAGHER, B., MORLEY, L., ST. LEDGER, R. J., & WEST, D. J. (1988). Are there any successful men from criminogenic backgrounds? *Psychiatry*, 51, 116–130.

FARRINGTON, D. P. 1996. *Understanding and preventing youth crime.*York Publishing. Joseph Rowntree Foundation.

FARRINGTON, D. P. 2000. Explaining and preventing crime. The globalisation of knowledge- The American Society of Criminology 1999 Presidential Address. *Criminology,* 38**,** 1-24.

FARRINGTON, D. P., LOEBER, R. & VAN KAMMEN, W. B. 1990. Long-term criminal outcomes of hyperactivity-impulsivity-attention deficit and conduct problems in childhood. . *In:* ROBINS L, R. M. (ed.) *Straight and devious pathways from childhood to adulthood.* 1st ed. New York: Cambridge University Press.

FELSON, M. 2006. The street gang strategy. *In:* FELSON, M. (ed.) *Crime and nature.* Thousand Oaks, CA.: Sage Publications.

FINCHAM, J. E. 2008. Response rates and responsiveness for surveys, standards, and the Journal. *Am J Pharm Educ,* 72**,** 43.

FISHER, H., GARDNER, F. & MONTGOMERY, P. 2008a. Cognitive-behavioural interventions for preventing youth gang involvement for children and young people (7-16). . The Cochrane Collaboration.

FISHER, H., GARDNER, F. & MONTGOMERY, P. 2008b. Opportunities provision for preventing youth gang involvement for children and young people (7-16). The Cochrane Collaboration.

FLANNERY, D. J. 2005. *Violence and Mental Health in Everyday Life: Prevention and Intervention Strategies for Children and Adolescents (Violence Prevention and Policy). ,* Oxford., AltaMira.

FLEISHER, J. A. 2002. Gangs, drugs and neighbourhood change. *In:* HUFF, C. R. (ed.) *Gangs in America II.* California: Sage.

FOLEY, D. L., EAVES, L. J., WORMLEY, B., SILBERG, J. L., MAES, H. H., KUHN, J., RILEY, B. 2004. Childhood adversity, monoamine oxidase A genotype, and risk for conduct disorder. *Archives of General Psychiatry* 61:738 –744.

FOMBONNE, E., WOSTEAR, G., COOPER, V., HARRINGTON, R. & RUTTER, M. 2001. The Maudsley long-term follow-up of child and adolescent depression: I. Psychiatric outcomes in adulthood. *British Journal of Psychiatry,* 179**,** 210-217.

FORD, T., GOODMAN, R. & MELTZER, H. 2003. The British child and adolescent mental health survey 1999: The prevalence of DSM-IV disorders. *Journal of the American Academy of Child and Adolescent Psychiatry,* 42**,** 1203-1211.

FOUGERE, A., DAFFERN, M. & THOMAS, S. 2012. Toward an empirical conceptualisation of resilience in young adult offenders. *Journal of Forensic Psychiatry and Psychology,* 23**,** 706-721.

FOWLER, P. J., TOMPSETT, C. J., BRACISZEWSKI, J. M., JACQUES-TIURA, A. J. & BALTES, B. B. 2009a. Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology,* 21**,** 227-259.

FOWLER, T., LANGLEY, K., RICE, F., WHITTINGER, N., ROSS, K., VAN GOOZEN, S., OWEN, M. J., O'DONOVAN, M. C., VAN DEN BREE, M. B. M. & THAPAR, A. 2009b. Psychopathy traits in adolescents with childhood attention-deficit hyperactivity disorder. *British Journal of Psychiatry,* 194**,** 62-67.

FREIDENFELT, J. & AF KLINTEBERG, B. 2007. Exploring adult personality and psychopathy tendencies in former childhood hyperactive delinquent males. *Journal of Individual Differences,* 28.

FRICK, P. J., LILIENFELD, S. O., ELLIS, M., LONEY, B. & SILVERTHORN, P. 1999. The association between anxiety and psychopathy dimensions in children. *Journal of Abnormal Child Psychology,* 27**,** 383-392.

GALE, F. & VOSTANIS, P. 2003. The primary mental health worker within child and adolescent mental health services. *Clinical Child Psychology and Psychiatry.,* 8**,** 227-240.

GARLAND, A. F., HOUGH, R. L., MCCABE, K. M., YEH, M., WOOD, P. A. & AARONS, G. A. 2001. Prevalence of psychiatric disorders in youths across five sectors of care. *Journal of the American Academy of Child and Adolescent Psychiatry,* 40**,** 409-418.

GATTI, U., TREMBLAY, R. E., VITARO, F. & MCDUFF, P. 2005. Youth gangs, delinquency and drug use: A test of the selection, facilitation, and enhancement hypotheses. *Journal of Child Psychology and Psychiatry and Allied Disciplines,* 46**,** 1178-1190.

GOODMAN, A. & GOODMAN, R. 2011. Population mean scores predict child mental disorder rates: validating SDQ prevalence estimators in Britain. *Journal of Child Psychology and Psychiatry,* 52**,** 100-108.

GOODMAN, R. 1997. The Strengths and Difficulties Questionnaire: A Research Note. *Journal of Child Psychology and Psychiatry,* 38**,** 581-586.

GOODMAN, R. 1999. The extended Version of the Strengths and Difficulties Questionnaire as a Guide to Child Psychiatric Caseness adn Consequent Burden. *The Journal of Child Psychology and Psychiatry,* 40**,** 791-799.

GOODMAN, R. 2001. Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry,* 40**,** 1337-1345.

GOODMAN, R. 2005. *SDQ: Information for researchers and professionals about the Strengths and Difficulties Questionnaire.* [Online]. Youth in Mind. Available: http://www.sdqinfo.com.

GOODMAN, R., FORD, T., RICHARDS, H., GATWARD, R. & MELTZER, H. 2000a. The Development and Well-Being Assessment: Description and initial validation of an integrated assessement of child and adolescent psychopathology. *Journal of Child Psychology and Psychiatry and Allied Disciplines,* 41**,** 645-655.

GOODMAN, R., FORD, T., SIMMON, H., GATWARD, R. & MELTZER, H. 2000b. Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *British Journal of Psychiatry,* 177**,** 534-539.

GOODMAN, R., GLEDHILL, J. & FORD, T. 2003. Child psychiatric disorder and relative age within school year: Cross sectional survey of large population sample. *British Medical Journal,* 327**,** 472-475.

GOODMAN, R., MELTZER, H. & BAILEY, V. 1998. The Strengths and Difficulties Questionnaire: A pilot study on the calidity of the self report version. *European Child and Adolescent Psychiatry,* 7**,** 125-130.

GOODMAN, R., RENFREW, D. & MULLICK, M. 2000c. Predicting type of psychiatric disorder from Strengths and Difficulties Questionnaire (SDQ) scores in child mental health clinics in London and Dhaka. *European Child & Adolescent Psychiatry,* 9**,** 129-134.

GOODMAN, R. & SCOTT, S. 1999. Comparing the Strengths and Difficulties Questionnaire and the Child Behavior Checklist: Is small beautiful? Journal of Abnormal Child Psychology. *27***,** 17-24.

GORDON, R. A., LAHEY, B. B., KAWAI, E., LOEBER, R., STOUTHAMER-LOEBER, M. & FARRINGTON, D. P. 2004. Antisocial behavior and youth gang membership: Selection and socialization. *Criminology,* 42**,** 55-87.

GREEN, H., MCGINNITY, A., MELTZER, H., FORD, T. & GOODMAN, R. 2005. *Mental Health of Children and Adolescents in Great Britain 2004.,* London, Office of National Statistics. HMSO.

GREENHALGH, T. & TAYLOR, R. 1997. How to read a paper: Papers that go beyond numbers (qualitative research). *British Medical Journal,* 315**,** 740-743.

GRIFFITHS, P. & NORMAN, I. J. 2005. Editorial: Science and art in reviewing literature. *International Journal of Nursing Studies,* 42**,** 373-376.

GUDJONSSON, G. H., WELLS, J., YOUNG, S. (2011). Motivation for offending among prisoners and the relationship with axis I and axis II disorders and ADHD symptoms. *Personality and Individual Differences,* 50, 64-68.

HAGEDORN, J. M. 1988. *People and Folks: Gangs, Crime and the Underclass in a Rustbelt City.,* Chicago, IL, Lakeview Press.

HAGELL, A. 2004. *Time trends in adolescent well being.,* The Nuffield Foundation.

HALLSWORTH, S. 2006. Racial targeting and social control: looking behind the police. *Critical Criminology,* 14**,** 293-311.

HARPER, G. W., DAVIDSON, J. & HOSEK, S. G. 2008. Influence of gang membership on negative affect, substance use, and antisocial behavior among homeless African American male youth. *American Journal of Men's Health,* 2**,** 229-243.

HARRINGTON, R., FUDGE, H., RUTTER, M., PICKLES, A. & HILL, J. 1990. Adult outcomes of childhood and adolescent depression. I. Psychiatric status. *Archives of General Psychiatry,* 47**,** 465-473.

HAVILAND, A. M. & NAGIN, D. 2005. Causal inferences with group based trajectory models. *Psychometrika,* 70**,** 557-578.

HAVILAND, A. M., NAGIN, D., ROSENBAUM, P. R. & TREMBLAY, R. E. 2008. ombining Group-Based Trajectory Modeling and Propensity Score Matching for Causal Inferences in Nonexperimental Longitudinal Data. *Developmental Psychology.,* 44**,** 422-436.

HAVILAND, A. M. & NAGIN, D. S. 2007. Using group-based trajectory modelling in conjunction with propensity scores to improve balance. *Journal of Experimental Criminology,* 3**,** 65-82.

HAWES, D. J. & DADDS, M. R. 2004. Australian data and psychometric properties of the Strengths and Difficulties Questionnaire. *Australia and New Zealand Journal of Psychiatry,* 38**,** 644-651.

HAY, C., FORTSON, E. N., HOLLIST, D. R., ALTHEIMER, I. & SCHAIBLE, L. M. 2006. The impact of community disadvantage on the relationship between family juvenile crime. *Journal of Research in Crime and Delinquency,* 43**,** 326-356.

HEYMAN, I., FOMBONNE, E., SIMMONS, H., FORD, T., MELTZER, H. & GOODMAN, R. 2001. Prevalence of obsessive-compulsive disorder in the British nationwide survey of child mental health. *British Journal of Psychiatry,* 179**,** 324-329.

HILL, K. G., HOWELL, J. C., HAWKINS, J. D. & BATTIN-PEARSON, S. R. 1999. Childhood risk factors for adolescent gang membership: Results from the Seattle Social Development Project. *Journal of Research in Crime and Delinquency,* 36**,** 300-322.

HILL, G. H., LUI, C., HAWKINS, J. D. 2001 *Early precursors of gang membership: A study of Seattle youth.* Juvenile Justice Bulletin, Washington, DC: US Department of Justice, Office of Justice Program, The Office of Juvenile Justice and Delinquency Prevention.

HODGEKINSON, J., MARSHALL, S., BERRY, G., NEWMAN, M., REYNOLDS, P., BURTON, E., DICKSON, K. & ANDERSON, J. 2009. Reducing gang related crime. A systematic review of 'comprehensive' interventions.: EPPI-Centre.

HOFFMAN, J. P. & CERBONE, F. G. 1999. Stressful life events and delinquency escalation in early adolescence. *Criminology.,* 37**,** 343-373.

HOFFMAN, J. P. & MILLER, A. S. 1998. A latent variable analysis of general strain theory. *Journal of Quantitative Criminology,* 14**,** 83- 110.

HOLLOWAY, K. & BENNETT, T. 2004. The results of the first two years of the NEW ADAM programme. Home Office.

HOMEOFFICE 2004. Offending Crime and Justice Survey. *In:* OFFICE, H. (ed.). London: HMSO.

HOROWITZ, R. 1983. *Honor and the American Dream: Culture and Identity in a Chicano Community.,* New Brunswick, NJ, Rutgers University Press.

HOROWITZ, R. 1990. Sociological perspectives on gangs: Conflicting definitions and concepts. *In:* HUFF, C. R. (ed.) *Gangs in America.* Newbury Park, CA: Sage.

HOWARD, J., LENNINGS, C. J. & COPELAND, J. 2003. Suicidal behavior in a young offender population. *Crisis,* 24**,** 98-104.

HOWELL, J. C. 1998. Promising programs for youth gang violence prevention and intervention. *In:* LOEBER, R. & FARRINGTON, D. P. (eds.) *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions.* Thousand Oaks, CA: Sage Publications.

HOWELL, J. C., DECKER, S. H. 1999 The youth gangs, drugs and violence connections. Juvenille Justicec Bulletin, Wahsington DC. US Department of Justice, Office of Justice Program, Office of Juvenile Justice and Delinquency Prevention.

HOWELL, J. C. 2007. Menacing or mimicking? Realities of youth gangs. *Juvenile and Family Court Journal,* 58**,** 39-50.

HOWELL, J. C. & EGLEY, A. J. 2005. Moving risk factors into developmental theories of gang membership. *Youth Violence and Juvenile Justice.,* 3**,** 334.

HOWELL, J. C., EGLEY, A. J. & GLEASON, D. . K. 2002. Modern day youth gangs. Youth gang Series bulletin. *US department of justice, Office of Justice Program*Washington DC.

HUFF, C. R. 1998. Comparing the criminal behavior of youth gangs and at-risk youth. Research in Brief. *In:* US department of justice, Office of Justice Program Washington, DC.

HUFF, C. R. 2002. *Gangs in America.,* Thousand oaks, CA, Sage.

HUGHES, L. A. 2005. Studying youth gangs: Alternative methods and conclusions. *Journal of Contemporary Criminal Justice,* 21**,** 98-119.

IBM CORPORATION 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, New York: IBM Corp.

IIZUKA, C., YAMASHITA, Y., NAGAMITSU, S., YAMASHITA, T., ARAKI, Y., OHYA, T., HARA, M., SHIBUYA, I., KAKUMA, T. & MATSUISHI, T. 2010. Comparison of the strengths and difficulties questionnaire (SDQ) scores between children with high-functioning autism spectrum disorder (HFASD) and attention-deficit/hyperactivity disorder (AD/HD). *Brain Dev,* 32**,** 609-12.

JAFFEE, S. R. & PRICE, T. S. 2004. Gene-Environment correlations: a review of the evidence and implications for prevention of mental illness. *Molecular Psychiatry.,* 12**,** 432-42.

JOHANSSON, P. & KEMPF-LEONARD, K. 2009. A Gender-specific pathway to serious, violent, and chronic offending?: Exploring howell's risk factors for serious delinquency. *Crime and Delinquency,* 55**,** 216-240.

JOHANSSON, P., KERR, M. & ANDERSHED, H. 2005. Linking adult psychopathy with childhood hyperactivity-impulsivity-attention problems and conduct problems through retrospecitive self report. *Journal of Personality Disorders,* 19.

JOSEPH, I. & GUNTER, A. 2011. What's a Gang and What's Race Got to Do With It? *Runnymede: Intelligence for a Multi-ethnic Britain.* Runnymede.

KAKAR, S. 2005. Gang membership, delinquent friends and criminal family members: Determining the connections. *Journal of Gang Research,* 13, 41–52.

KAUFMAN, J., BIRMAHER, B., BRENT, D. A., RYAN, N. D. & RAO, U. 2000. K-SADS-PL [1]. *Journal of the American Academy of Child and Adolescent Psychiatry,* 39**,** 1208.

KELLY, S., ANDERSON, D., HALL, L., PEDEN, A. & CEREL, J. 2012. The Effects of Exposure to Gang Violence on Adolescent Boys' Mental Health. *Issues in Mental Health Nursing,* 33**,** 80-88.

KEMERLING, G. 2011 *Dictionary of philosophical names and terms.* www.philosophypages.com/dy/r.htm#reif accessed 1st May 2013.

KERR, M. M., TREMBLAY, R. E., PAGANI, L., & VITARO, F. 1997. Boys' behavioral inhibition and the risk of later delinquency. *Archives of General Psychiatry*, 54, 809–816.

KIM-COHEN, J., CASPI, A., TAYLOR, A., WILLIAMS, B., NEWCOMBE, R. & CRAIG, I. W. 2006. Maltreatment, and gene-environment interactions predicting children's mental health: new evidence and a meta-analysis. *Molecular Psychiatry.*, 11**,** 903-13.

KIM, J. & CICCHETTI, D. 2010. Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 51**,** 706-716.

KING, S. & WASCHBUSCH, D. A. 2010. Aggression in children with attention-deficit/hyperactivity disorder. *Expert Review of Neurotherapeutics*, 10**,** 1581-1594.

KLASEN, H., WOERNER, W., WOLKE, D., MEYER, R., OVERMEYER, S., KASCHNITZ, W., ROTHENBERGER, A. & GOODMAN, R. 2000. Comparing the German version of the Strengths and Difficulties Questionnaire and the Child Behaviour checklist. *European Child and Adolescent Psychiatry*, 9**,** 271-276.

KLEIN, M., KERNER, H. J., MAXSON, C. L. & WEITEKAMP, E. (eds.) 2000. *The Eurogang Paradox: Street Gangs and Youth Groups in the U.S. and Europe*: Springer.

KLEIN, M. W. 1995a. *The American Street Gang: Is nature, prevalence and control.* New York, Oxford University Press.

KLEIN, M. W. 1995b. Street gang cycles. . *In:* WILSON, J. Q. & PETERSILIA, J. (eds.) *Crime.* San Francisco: ICS.

KLEIN, M. W., KERNER, H.-J., MAXSON, C. & WEITEKAMP, E. 2001. Bridging the American/European contexts: interventions, communities, youth groups, and moral panics.' Dorderecht. Kluwer Academic. . *In:* KLEIN, M. W., MALCOLM, C., KERNER, H.-J., MAXSON, C. & WEITEKAMP, E. (eds.) *The Eurogang paradox. Street gangs and youth groups in US and Europe.* .

KLEIN, M. W. & MAXSON, C. L. 2006. *Street gang patterns and policies.*, New York., Oxford University Press.

KLEIN, M. W., WEERMAN, F. M. & THORNBERRY, T. P. 2006. Street gang violence in Europe. . *European Journal of Criminology.*, 3**,** 413-437.

KOSKELAINEN, M., SOURANDER, A. & KALJONEN, A. 2000. The Strengths and Difficulties Questionnaire among finnish School-age children and adolescents. *European Child and Adolescent Psychiatry*, 9**,** 277-284.

KROLL, L., ROTHWELL, J., BRADLEY, D., SHAH, P., BAILEY, S. & HARRINGTON, R. C. 2002. Mental health needs of boys in secure care for serious or persistent offending: A prospective, longitudinal study. *Lancet*, 359**,** 1975-1979.

KROLL, L., WOODHAM, A., ROTHWELL, J., BAILEY, S., TOBIAS, C., HARRINGTON, R. & MARSHALL, M. 1999. Reliability of the Salford Needs Assessment Schedule for Adolescents. *Psychological Medicine*, 29**,** 891-902.

LACOURSE, E., NAGIN, D. S., VITARO, F., CÔTÉ, S., ARSENEAULT, L. & TREMBLAY, R. E. 2006. Prediction of early onset deviant peer group affiliation: a 12-year longitudinal study. *Archives of General Psychiatry*, 63**,** 562-568.

LAHEY, B. B., GOODMAN, S. H., WALDMAN, I. D., BIRD, H., CANINO, G., JENSEN, P., REGIER, D., LEAF, P. J., GORDON, R. & APPLEGATE, B. 1999a. Relation of age of onset to the type and severity of child and adolescent conduct problems. *Journal of Abnormal Child Psychology,* 27**,** 247-260.

LAHEY, B. B., GORDON, R. A., LOEBER, R., STOUTHAMER-LOEBER, M. & FARRINGTON, D. P. 1999b. Boys who join gangs: A prospective study of predictors of first gang entry. *Journal of Abnormal Child Psychology,* 27**,** 261-276.

LAHEY, B. B., SCHWAB-STONE, M., GOODMAN, S. H., WALDMAN, I. D., CANINO, G., RATHOUZ, P. J., MILLER, T. L., DENNIS, K. D., BIRD, H. & JENSEN, P. S. 2000. Age and gender differences in oppositional behavior and conduct problems: A cross-sectional household study of middle childhood and adolescence. *Journal of Abnormal Psychology,* 109**,** 488-503.

LAHEY, B. B., WALDMAN, I. D. & MCBURNETT, K. 1999c. The development of antisocial behavior: An integrative causal model. *Journal of Child Psychology and Psychiatry and Allied Disciplines,* 40**,** 669-682.

LAMING, H. 2003. The Victoria Climbie Inquiry. Report of an inquiry by Lord Laming. London: The Stationary Office.

LAWYER, S. R., RUGGIERO, K. J., RESNICK, H. S., KILPATRICK, D. G. & SAUNDERS, B. E. 2006. Mental Health Correlates of the Victim-Perpetrator Relationship Among Interpersonally Victimized Adolescents. *Journal of Interpersonal Violence,* 21**,** 1333-1353.

LE BLANC, M., LANCTOT, N. 1998. Social and psychological characteristics of gang members according to the gang structure and its subcultural and ethnic makeup. *Journal of Gang Research* 5(3):15–28.

LOEBER, R., BURKE, J. D. & LAHEY, B. B. 2002. What are adolescent antecedents to antisocial personality disorder? *Criminal Behaviour and Mental Health,* 12**,** 24-36.

LOEBER, R., BURKE, J. D., LAHEY, B. B., WINTERS, A. & ZERA, M. 2000. Oppositional defiant and conduct disorder: a review of the past

10 years, part I. *Journal of American Acadamy of Child and Adolescent Psychiatry,* 39**,** 1468-1484.

LUCAS, C. P., ZHANG, H., FISHER, P. W., SHAFFER, D., REGIER, D. A., NARROW, W. E., BOURDON, K., DULCAN, M. K., CANINO, G., RUBIO-STIPEC, M., LAHEY, B. B. & FRIMAN, P. 2001. The DISC Predictive Scales (DPS): Efficiently Screening for Diagnoses. *Journal of the American Academy of Child & Adolescent Psychiatry,* 40**,** 443-449.

LYNAM, D. R. 1996. Early identification of chronic offenders: Who is the fledgling psychopath? *Psychological Bulletin,* 120**,** 209-234.

LYNAM, D. R. & GUDONIS, L. 2005. The development of psychopathy. *Annual Review of Clinical Psychology,* 1**,** 381-407.

MADAN, A., MRUG, S. & WINDLE, M. 2011. Brief report: Do delinquency and community violence exposure explain internalizing problems in early adolescent gang members? *Journal of Adolescence,* 34**,** 1093-1096.

MARES, D. 2000. Globalization and Gangs. The Manchester Case. *Focaal: tijdschrift voor antropologie,* 35**,** 151-169.

MARES, D. 2001. Gangstas or lager louts? Working class street gangs in Manchester. *In:* KLEIN, H. J., KERNER, C. L., MAXSON, C. L. & WEITEKAMP, E. G. (eds.) *The Eurogang Paradox.* Kluwer: Dordrecht.

MARZOCCHI, G. M., CAPRON, C., DI PIETRO, M., DURAN TAULERIA, E., DUYME, M., FRIGERIO, A., GASPER, M. F., HAMILTON, H., PITHON, G., SIMOES, A. & THEROND, C. 2004. The use of the Strengths and Difficulties Questionnaire (SDQ) in southern European countries. *European Child and Adolescent Psychiatry,* 13**,** 40-46.

MATSUDA, K. N., ESBENSEN, F. A. & CARSON, D. C. 2012. Putting the 'gang' in 'Eurogang': Characteristics of Delinquent youth Groups by Different Definitional Approaches. *In:* ESBENSEN, F. A. & MAXSON, C. L. (eds.) *Youth Gangs in International Perspective- results from teh Eurogang Program of Research.* Springer.

MAUGHAN, B., COLLISHAW, S., MELTZER, H. & GOODMAN, R. 2008. Recent trends in UK child and adolescent mental health. *Social Psychiatry and Psychiatric Epidemiology,* 43**,** 305-310.

MAXSON, C. L. 2001. A proposal for multi-site study of European gangs and youth groups. *In:* KLEIN, M. W., KERNER, H.-J., MAXSON, C. L. & WEITEKAMP, E. G. M. (eds.) *The Eurogang paradox: Street gangs and youth groups in the U.S. and Europe.* Amsterdam: Kluwer.

MAXSON, C. L. 2012. Betwixt and Between Street and Prison Gangs: Defining Gangs and Structures in Youth Correctional Facilities. *In:* ESBENSEN, F. A. & MAXSON, C. L. (eds.) *Youth Gangs in International Perspective: Results from the Eurogang Program of Research.* California: Springer.

MAZEROLLE, P. 1998. Gender, general strain, and delinquency: An empirical examination. *Justice Quarterly.,* 15**,** 65- 91.

MEDINA, J., ALDRIDGE, J., SHUTE, J. & ROSS, A. 2013. Measuring gang membership in England and Wales: A latent class analysis with Eurogang survey questions. *European Journal of Criminology*.

MELTZER, H., GATWARD, R., GOODMAN, R. & FORD, T. 2000. Mental health of children and adolescents in Great Britain. Office of National Statistics.

MERIKANGAS, K. R. 2005. Vulnerability factors for anxiety disorders in children and adolescents. *Child and Adolescent Psychiatric Clinics of North America,* 14**,** 649-679.

MERTON, R. K. 1938. Social structure and anomie. American Sociological Review. 3, 672-82.

MILLER, C. & AHMED, Y. 2000. Collaboration and partnership: An effective response to complexity and fragmentation or solution built on sand? *international Journal of Sociology and Social Policy,* 20**,** 1-39.

MILLER, J. 1998. Gender and ictimisation rusk among young women in gangs. *Journal of Research in Crime and Delinquency.,* 35**,** 429-453.

MILLER, W. B. 2001. The growth of youth gang problems in the United States: 1970– 1998. *In:* PREVENTION., O. O. J. J. A. D. (ed.). Washington, DC.

MINNIS, H. 2003. Reactive Attachment Disorder: The Missing Link in the Causation of Social Exclusion? *International Journal of Mental Health Promotion.,* 5**,** 42-46.

MOFFITT, T. E. 1993. Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review,* 100**,** 674-701.

MOFFITT, T. E. 2003. Life-course persistent and adolescence limited antisocial behaviour: a 10-year research review and a research agenda. *In:* LAHEY, B. B., MOFFITT, T. E. & CASPI, A. (eds.) *Causes of conduct disorder and serious juvenile delinquency.* 1st ed. New York: Guilford.

MOFFITT, T. E., CASPI, A., HARRINGTON, H. & MILNE, B. J. 2002. Males on the life-course-persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology,* 14**,** 179-207.

MOHER D, LIBERATI A, TETZLAFF J, ALTMAN DG, THE PRISMA GROUP 2009. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *British Medical Journal.* 339:2535

MOORE, J. W. 1991. *Going Down to the Barrio: Homeboys and Homegirls in Change.,* Philadelphia, PA, Temple University Press.

MOORE, J. W. 2002. Foreword. *In:* VIGIL, J. D. (ed.) *A rainbow of gangs: Street cultures in the mega city.* Austin: University of Texas Press.

MOORE, J. W. & VIGIL, J. D. 1987. Chicano Gangs: Group Norms and Individual Factors Related to Adult Criminality. *Aztlan,* 18**,** 27-44.

MORDRE, M., GROHOLT, B., KJELSBERG, E., SANDSTAD, B. & MYHRE, A. M. 2011. The impact of ADHD and conduct disorder in childhood on adult delinquency: A 30 years follow-up study using official crime records. *BMC Psychiatry,* 11.

MURIS, P., MEESTERS, C., EIJKELENBOOM, A. & VINCKEN, M. 2004. The self report version of the Strengths and Difficulties Questionnaire: Its psychomentric properties in 8- to 13- year old non clinical children. *British Journal of Clinical Psychology,* 43**,** 437-448.

MURIS, P., MEESTERS, C. & VAN DEN BERG, F. 2003. The Strengths and Difficulties Questionnaire (SDQ): Further evidence for its reliability and validity in a community sample of Dutch children and adolescents. *European Child and Adolescent Psychiatry,* 12**,** 1-11.

MURPHY, R. A., ROSENHECK, R. A., BERKOWITZ, S. J. & MARANS, S. R. 2005. Acute service delivery in a police-mental health program for children exposed to violence and trauma. *Psychiatric Quarterly,* 76**,** 107-121.

NORMAN, A. 2010 Improving offender health care. *British Journal of Nursing* 19, 1387–1389.

OBEL, C., HEIERVANG, E., RODRIGUEZ, A., HEYERDAHL, S., SMEDJE, H. & SOURANDER, A. 2004. The Strengths and Difficulties Questionnaire in the Nordic countries. *European Child and Adolescent Psychiatry,* 13**,** 32-39.

OLSSON, C. A., BOND, L., BURNS, J. M., VELLA-BRODRICK, D. A. & SAWYER, S. M. 2003. Adolescent resilience: A concept analysis. *Journal of Adolescence,* 26**,** 1-11.

OWERS, A., BRIDGES, A. & O'CONNOR, D. 2010. The management of gang issues among children and young people in prison custody and the community: a joint thematic review. HM Chief Inspector of Prisons, HM Chief Inspector of Probation, HM Chief Inspector of Constabulary.London: HMSO.

PAIN, R. 2003. Youth, age and the representation of fear. . *Capital and Class.,* 80**,** 151-171.

PATERNOSTER, R. & MAZEROLLE, P. 1994. General strain theory and delinquency: A replication and extension. *Journal of Research in Crime and Delinquency,* 31**,** 235-263.

PATON, J., CROUCH, W. & CAMIC, P. 2009. Young offenders' experiences of traumatic life events: A qualitative investigation. *Clinical Child Psychology and Psychiatry,* 14**,** 43-62.

PATRICK, C. J. 1994. Emotion and psychopathy: Startling new insights. *Psychophysiology,* 31**,** 319-330.

PEACH, C. 1996. Does Britain have ghettos? *Transactions of the Institute of British Geographers. ,* 21**,** 216-235.

PERRIN, E. C., STEIN, R. E. & DROTAR, D. 1991. Cautions in using the Child Behavior Checklist: Observations based on research about children with a chronic illness. *Journal of Pediatric Psychology,* 16**,** 411-421.

PERRON, B. E., GOTHAM, H. J. & CHO, D. 2008. Victimization among African-American adolescents in substance abuse treatment. *Journal of Psychoactive Drugs,* 40**,** 67-75.

PETERSON, D., TAYLOR, T. J. & ESBENSEN, F. A. 2004. Gang membership and violent victimization. *Justice Quarterly,* 21**,** 793-815.

PINE, D. S., COHEN, P., GURLEY, D., BROOK, J. & MA, Y. 1998. The risk for early-adulthood anxiety and depressive disorders in adolescents with anxiety and depressive disorders. *Archives of General Psychiatry,* 55**,** 56-64.

PITTS, J. 2007. *Reluctant gangsters: Youth gangs in Waltham Forest.,* Bedford, University of Bedfordshire.

PLAISTOW, J., MASSON, K., KOCH, D., WILSON, J., STARK, R. M., JONES, P. B. & LENNOX, B. R. 2014. Young people's views of UK mental health services. Early Intervention in Psychiatry, 8, 12-23.

PLISZKA, S. R., SHERMAN, J. O., BARROW, M. V. & IRICK, S. 2000. Affective disorder in juvenile offenders: A preliminary study. *American Journal of Psychiatry,* 157**,** 130-132.

POSTHUMA, D. & POLDERMAN, T. J. C. 2013. What have we learned from recent twin studies about the etiology of neurodevelopmental disorders? *Current Opinion in Neurology,* 26**,** 111-121.

PRITCHARD, T. 2008. *Street boys. ,* London., Harper element.

PYROOZ, D.C. 2012 Non-Criminal Consequences of Gang Membership: Impacts on Education and Employment in the Life-Course. *National Institute of Justice.*

REIFMAN, A. & WINDLE, M. 1995. Adolescent suicidal behaviors as a function of depression, hopelessness, alcohol use, and social support: A longitudinal investigation. *American Journal of Community Psychology,* 23**,** 329-354.

RETZ, W., BOUREGHDA, S. S. T., RETZ-JUNGINGER, P., PHILIPP-WIEGMANN, F. & RÖSLER, M. 2013. Clinical symptoms of ADHD and psychopathy in perpetrators. *ADHD Attention Deficit and Hyperactivity Disorders,* 5**,** 47-57.

REYNOLDS, C. & RICHMOND, B. 1997. What I Think and Feel: A Revised Measure of Children's Manifest Anxiety. *Journal of Abnormal Child Psychology,* 25**,** 15-20.

RIZZO, M. 2003. Why do children join gangs? *Journal of Gang Research.* 11, 65-74.

ROBINS, J., GREENLAND, S. & HU, F. 1999. Estimation of the causal effect of time-varying exposure on the marginal mean of a repeated binary outcome. *Journal of the American Statistical Association,* 94**,** 687-770.

ROSE, G. & DAY, S. 1990. The population mean predicts the number of deviant individuals. *British Medical Journal***,** 1031-1034.

RÖSLER, M., RETZ, W., RETZ-JUNGINGER, P., HENGESCH, G., SCHNEIDER, M., SUPPRIAN, T., SCHWITZGEBEL, P., PINHARD, K., DOVI-AKUE, N., WENDER, P. & THOME, J. 2004. Prevalence of attention deficit-/hyperactivity disorder (ADHD) and comorbid disorders in young male prison inmates. . *European Archives of Psychiatry and Clinical Neuroscience* 254**,** 365-371.

ROWE, R., MAUGHAN, B. & GOODMAN, R. 2004. Childhood Psychiatric Disorder and Unintentional Injury: Findings from a National Cohort Study. *Journal of Pediatric Psychology,* 29**,** 119-130.

RUTTER, M., PICKLES, A., MURRAY, R. & EAVES, L. 2001. Testing hypotheses on specific environmental causal effects on behaviour. Psychological bulletin. *127,* 3**,** 291-324.

RUTTER, M. 2012. Resilience as a dynamic concept. Development and *Psychopathology*, 24, 335–344.

SALMOND, C. H. & JIM, J. 2007. A characterisation of tier 2 services in child and adolescent mental health. *Child and Adolescent Mental Health,* 12**,** 87-93.

SANDERS, B. 2012 Gang youth, substance use patterns, and drug normalization. *Journal of Youth Studies*. 15, 8.

SATTERFIELD, J. H., FALLER, K. J., CRINELLA, F. M., SCHELL, A., SWANSON, J. M. & HOMER, L. D. 2007. A 30-year prospective follow-up study of hyperactive boys with conduct problems: adult criminality. *Journal of the American Academy of Child and Adolescent Psychiatry,* 46**,** 601-610.

SCHNEIDER, J. L. 2001. Niche crime: The Columbus gangs study. *American Journal of Criminal Justice.,* 26**,** 94-103.

SCHWAB-STONE, M. E., SHAFFER, D., DULCAN, M. K., JENSEN, P. S., FISHER, P., BIRD, H. R., GOODMAN, S. H., LAHEY, B. B., LICHTMAN, J. H., CANINO, G., RUBIO-STIPEC, M. & RAE, D. S. 1996. Criterion validity of the NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3). *Journal of the American Academy of Child and Adolescent Psychiatry,* 35**,** 878-888.

SHAFFER, D., GOULD, M. S., FISHER, P., TRAUTMAN, P., MOREAU, D., KLEINMAN, M. & FLORY, M. 1996. Psychiatric diagnosis in child and adolescent suicide. *Archives of General Psychiatry,* 53**,** 339-348.

SHARP, C., ALDRIDGE, J. & MEDINA, J. 2006. *Delinquent Youth Groups and Offending Behaviour: Findings from the 2004 Offending, Crime and Justice Survey. Home Office Online Report 14/06,* London, Home Office.

SHAW, C. R., MCKAY, H. D. 1931. *Social factors in Juvenile delinquency*, 2, 13, Government Printing Office, Washington DC.

SHAW, C. R., MCKAY, H. D. 1942. *Juvenile delinquency and urban areas,* The University of Chicago Press, Chicago.

SHELDON, R. G., TRACY, S. K. & BROWN, W. B. 2001. *Youth Gangs in American Society.,* Stamford, CT, Wadsworth/Thomson Learning.

SHELTON, D. 2001. Emotional disorders in young offenders. *Journal of Nursing Scholarship,* 33**,** 259-263.

SHORT, J. J., F, & HUGHES, L. A. 2006. *Studying Youth Gangs.,* AltaMira Press.

SHROPSHIRE, S. & FARQUHAR, M. 2002. Developing Multiagency strategies to address the street gang culture and reduce gang violence among young people. Manchester: Steve Shropshire and Michael Farquhar Consultancy Group.

SIBLEY, M. H., PELHAM, W. E., MOLINA, B. S. G., WASCHBUSCH, D. A., GNAGY, E. N., BABINSKI, D. E. & BISWAS, A. 2010. Inconsistent Self-Report of Delinquency by Adolescents and Young Adults with ADHD. *Journal of abnormal child psychology,* 38**,** 645-656.

SIMI, P. 2006. Hate groups or street gangs? The emergence of racist skinheads. *In:* SHORT, J. F. & HUGHES, L. A. (eds.) *Studying youth gangs.* Lanham: Alta Mira Press.

SIMONS, R. L., SIMONS, L. G., BURT, C. H. & CUTONA, C. 2005. Collective efficacy, authoritative parenting and delinquency: A longitudinal test of a model integrating community and family level processes. *Criminology,* 43**,** 989-1029.

SIRPAL, S. K. 2002. Familial criminality, familial drug use, and gang membership: Youth criminality, drug use, and gang membership—What are the connections? *Journal of Gang Research,* 9, 11–22.

SKYBO, T. 2005. Witnessing violence: Biopsychosocial impact on children. *Pediatric nursing.*

SMEDJE, H., BROMAN, J. E., HETTA, J. & VON KNORRING, A. L. 1999. Psychometric properties of a Swedish version of the Strengths and Difficulties Questionnaire. *European Child and Adolescent Psychiatry,* 8**,** 63-70.

SMITH, D. J. 2004. The links between victimisation and offending. . *ESYTC Research Digest.* Edinburgh.: Edinburgh University.

SMITH, D. J. & BRADSHAW, P. 2005. Gang membership and teen offending. The Edinburgh Study of Youth transitions and crime.

SMITH, D. J. & ECOB, R. 2007. An investigation into casual links between victimisation and offending in adolescents. *British Journal of Sociology.,* 58**,** 633-659.

SPERGEL, I. A. 1995. *The youth gang problem.,* New York, Oxford.

STEINER, H., GARCIA, I. G. & MATHEWS, Z. 1997. Posttraumatic stress disorder in incarcerated juvenile delinquents. *Journal of American Academic Child and Adolescent Psychiatry.,* 36**,** 357-365.

STEINER, I. D. 1986. Paradigm and groups. *In:* BERTOWITZ, L. (ed.) *Advances in experimental social psychology.* London: Academic Press.

STELFOX, P. 1998. Policing lower levels of organised crime in England and Wales. *The Howard Journal.,* 37**,** 393-406.

SULLIVAN, M. L. 2005. Maybe we shouldn't study gangs. Does reification obscure Youth Violence? *Journal of Contemporary Ciminal Justice.* , 21**,** 170.

SULLIVAN, M. L. 2006. Are "Gangs" Studies Dangerous? Youth Violence, Local Context, and the Problem of Reification. *In:* F, S. J. & A, H. L. (eds.) *Studying Youth Gangs.*: Altimira Press.

SUSSMAN, S., POKHREL, P., ASHMORE, R. D. & BROWN, B. B. 2007. Adolescent peer group identification and characteristics: A review of the literature. *Addictive Behaviors,* 32**,** 1602-1627.

SUTHERLAND, E. H. 1937. *The professional thief,* University of Chicago Press, US.

SUTHERLAND, E. H., CRESSEY, D. R. 1960. *A theory of differential association, Principles of criminology* (6th Edition), Lippincott, Chicago.

SUTHERLAND, E. H., CRESSEY, D. R. 1974. *Criminology,* Lippincott, New York.

SWAHN, M. H., BOSSARTE, R. M., WEST, B. & TOPALLI, V. 2010. Alcohol and drug use among gang members: Experiences of adolescents who attend school. *Journal of School Health,* 80**,** 353-360.

TAYLOR, T. J., PETERSON, D., ESBENSEN, F. & FRENG, A. 2007. Gang membership as a risk factor for adolescent violent victimization. . *Journal of Research in Crime and Delinquency.,* 44**,** 351-380.

TEPLIN, L. A., ABRAM, K. M., MCCLELLAND, G. M., DULCAN, M. K. & MERICLE, A. A. 2002. Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry,* 59**,** 1133-1143.

THEEQUATORNETWORK. 2013. *The Equator Network* [Online]. Available: http://www.bmj.com/about-bmj/resources-reviewers/guidance-peer-reviewers 2013].

THELANCET 2009. Health care for prisoners and young offenders. *The Lancet,* 373**,** 603.

THOMAS, M. & HYNES, C. 2007. The darker side of groups. *Journal of Nurse Management***,** 375-385.

THOMAS, W. I. & ZNANIECKI, F. W. 1918. *The Polish peasant in Europe and America. Monograph of an immigrant group.,* Chicago, Ill, University of Chicago Press.

THORNBERRY, T. P. 1998. Membership of youth gangs and involvement in serious violent offending. *In:* LOEBER, R. & FARRINGTON, D. P. (eds.) *Serious and Violent Offenders: Risk factors and successful interventions.* California: Sage.

THORNBERRY, T. P., KROHN, M. D., LIZOTTE, A. J., SMITH, C. A. & TOBIN, K. 2003. *Gangs and Delinquency in Developmental Perspective.* .

THORNBERRY, T. P., KROHN, M. D., LIZOTTE, A. J, SMITH, C. A AND TOBIN, K. 2003. *Gangs and Delinquency in Developmental Perspective.,* New York, Cambridge University Press.

THRASHER, F. 1927. *The Gang: A Study of 1,313 Gangs in Chicago.,* Chicago, University of Chicago Press.

TILLEY, N. & BULLOCK, K. 2002. Shootings, gangs and violent incidents in Mancester: developing a crime reduction strategy. *Crime reduction research series.* Home Office.

TIMMONS-MITCHELL, J., BROWN, C., SCHULZ, S. C., WEBSTER, S. E., UNDERWOOD, L. A. & SEMPLE, W. E. 1997. Comparing the mental health needs of female and male incarcerated juvenile delinquents. *Behavioral Sciences and the Law,* 15**,** 195-202.

TREMBLAY, R. E. 2000. The development of aggressive behaviour during childhood: What have we learned in the past century? *International Journal of Behavioral Development,* 24**,** 129-141.

TREMBLAY, R. E., PIHL, R. O., VITARO, F. & DOBKIN, P. L. 1994. Predicting early onset of male antisocial behavior from preschool behavior. *Archives of General Psychiatry,* 51**,** 732-739.

VALDEZ, A., KAPLAN, C. D. & CODINA, E. 2000. Psychopathy among Mexican American gang members: A comparative study. *International Journal of Offender Therapy and Comparative Criminology,* 44**,** 46-58.

VAN GEMERT, F. & DECKER, S. H. 2008. Migrant Groups and Gang Activity: A contrast between the European Situation and The United States. *In:* VAN GEMERT, F., PETERSON, D. & LIEN, I.-L. (eds.) *Youth Gangs, Migration and Ethnicity.* . London: Willan.

VAN GEMERT, F., LIEN, I.-L. & PETERSON, D. 2008. Introduction. *In:* VAN GEMERT, F., PETERSON, D. & LIEN, I.-L. (eds.) *Street gangs, migration and ethnicity.* Devon: Willan publishing.

VAN WIDENFELT, B. M., GOEDHART, A. W., TREFFERS, P. D. A. & GOODMAN, R. 2003. Dutch version of the Strengths and Difficulties Questionnaire (SDQ). *European Child and Adolescent Psychiatry,* 12**,** 281-289.

VENKATESH, S. A. 1998. Gender and outlaw capitalism: a historical account of 'the black sisters united' girl gang. . *Signs.,* 23**,** 683-709.

VERONA, E., PATRICK, C. J. & JOINER, T. E. 2001. Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology,* 110**,** 462-470.

VOSTANIS, P. 2006. Strengths and Difficulties Questionnaire: research and clinical applications. *Current Opinion in Psychiatry,* 19**,** 367-372 10.1097/01.yco.0000228755.72366.05.

WALKER, A. & BRIDGES, A. 2009. *Actions speak louder. A second review of healthcare in the community for young people who offend* [Online]. London: Commission for Healthcare Audit and Inspection and Her Majesty's Inspectorate of Probation. Available: http://www.justice.gov.uk/inspectorates/hmi-probation/docs/actions_speak_louderhcchmip-rps.pdf [Accessed 5th May 2011 2011].

WARR, M. 2002. *Companions in Crime.: The social aspects of criminal conduct.*, Cambridge, Cambridge University Press.

WASCHBUSCH, D. A., CARREY, N. J., WILLOUGHBY, M. T., KING, S. & ANDRADE, B. F. 2007. Effects of methylphenidate and behavior modification on the social and academic behavior of young children with disruptive behavior disorders: The moderating role of callous/unemotional traits. *Journal of Clinical Child and Adolescent Psychology,* 36**,** 629-644.

WASSERMAN, G. A., MCREYNOLDS, L. S., SCHWALBE, C. S., KEATING, J. M. & JONES, S. A. 2011. Psychiatric disorder, comorbidity, and suicidal behavior in juvenile justice youth. *Criminal Justice and Behavior,* 38**,** 1361-1376.

WATKINS, A. & MELDE, C. 2007. The effect of self-control on unit and item nonresponse in an adolescent sample. *Journal of Research in Crime and Delinquency.,* 44**,** 267-294.

WEERMAN, F. M., MAXSON, C. L., ESBENSEN, F. A., ALDRIDGE, J., MEDINA, J. & VAN GEMERT, F. 2009. *Eurogang Program Manual: Background, development and use of the Eurogang instruments in multi-site, multi-method comparative research* [Online]. Available: www.umsl.edu/ccj/Eurogang/EurogangManual.pdf.

WEINSTEIN, D., STAFFELBACH, D. & BIAGGIO, M. 2000. Attention-deficit hyperactivity disorder and posttraumatic stress disorder: Differential diagnosis in childhood sexual abuse. *Clinical Psychology Review,* 20**,** 359-378.

WEISSMAN, M. M., WOLK, S., WICKRAMARATNE, P., GOLDSTEIN, R. B., ADAMS, P., GREENWALD, S., RYAN, N. D., DAHL, R. E. & STEINBERG, D. 1999. Children with prepubertal-onset major depressive disorder and anxiety grown up. *Archives of General Psychiatry,* 56**,** 794-801.

WHYTE, W. F. 1943. *Street corner society. The social structure of an Italian Slum.* Chicago. University of Chicago Press.

WILSON, D., SHARP, C. & PATTERSON, A. 2006. Young People and Crime: Findings from the 2005 Offending, Crime and Justice Survey. Accessed 11th January 2010. *In:* OFFICE, H. (ed.). London: HMSO.

WINTON, A. 2005. Youth, gangs and violence: Analysing the social and spatial mobility of young people in Guatemala City. *Children's Geographies,* 1473-3277,3, 2, 167–184.

WOERNER, W., FLEITLICH-BILYK, B., MARTINUSSEN, R., FLETCHER, J., CUCCHIARO, G., DALGALARRONDO, P., M., L. & TANNOCK, R. 2004. The Strengths and Difficulties Questionnaire overseas: Evaluations and

applications of the SDQ beyond Europe. *European Child and Adolescent Psychiatry,* 13**,** 47-54.

WOOD, J. & ALLEYNE, E. 2010. Street gang theory and research: Where are we now and where do we go from here? *Aggression and Violent Behavior,* 15**,** 100-111.

WOOD, M., FURLONG, M. J., ROSENBLATT, J. A., ROBERTSON, L. M., SCOZZARI, F. & SOSNA, T. 1997. Understanding the Psychosocial Characteristics of Gang-Involved Youths in a System of Care: Individual, Family, and System Correlates. *Education & Treatment of Children,* 20**,** 281-294.

WORLD HEALTH ORGANISATION 1992. *ICD-10 Classifications of Mental and Behavioural Disorder: Clinical Descriptions and Diagnostic Guidelines.* , Geneva, World Health Organisation.

YEHUDA, R. 2001. Biology of Posttraumatic Stress Disorder. *Journal of Clinical Psychiatry,* 62**,** 41-46.

YOUNG, S. J., GUDJONSSON, G. H., MISCH, P., COLLINS, P., CARTER, P., REDFERN, J. & GOODWIN, E. 2010. Prevalence of ADHD symptoms among youth in a secure facility: The consistency and accuracy of self- and informant-report ratings. *Journal of Forensic Psychiatry and Psychology,* 21**,** 238-246.

YOUNG, S. J. & ROSS, R. R. 2007. *R&R2 for ADHD Youths and Adults with ADHD: A Prosocial Competence Training Program.,* Ottawa, Cognitive Centre of Canada.

YOUNG, T., FITZGERALD, M., HALLSWORTH, S. & JOSEPH, I. 2007. Groups, gangs and weapons. Full report. London: Youth Justice Board.

YOUTHJUSTICEBOARD. 2013. *Youth Justice Statistics* [Online]. Available: https://www.gov.uk/government/publications/youth-justice-statistics.

Appendices

Appendix 1: Glossary of Terms

ADHD	Attention Deficit and Hyperactivity Disorder
ASD	Autistic Spectrum Disorders
CAMHS	Child and Adolescent Mental Health Service
CBCL	Child Behaviour Checklist
CCG	Clinical Commissioning Group
DISC	Diagnostic Interview Schedule for Children
DSM V	Diagnostic and Statistical Manuel of Mental Disorders V
EYS	Eurogang Youth Survey
ICD-10	International Classification of Diseases, tenth revision
NOMS	National Offender Management Service
OMHRC	Oregon Mental Health Referral Checklist
PRU	Pupil Referral Unit (schools for children excluded from mainstream school)
PTSD	Post-Traumatic Stress Disorder
SDQ	Strengths and Difficulties Questionnaire
SES	Socio Economic Status
YOI	Young Offenders Institution
YOS	Young Offenders Service

Appendix 2: Letter to schools

REC Reference Number: PNM/10/11-75

KING'S College LONDON

Dear Head teacher

The Mental Health of Gang Members

We would like to invite your school to participate in this original postgraduate research project. You should only allow your school to participate if you want to; choosing not to take part will not disadvantage the school in any way. Before you decide whether you want the school to take part, it is important for you to understand why the research is being done and what the school's participation will involve.

We are interested in the strengths and difficulties of all children and so we have decided to carry out a research project to investigate the mental health of children who may or may not be members of a gang. We are hoping, in particular, to gain a greater understanding of whether there is a difference between the strengths and difficulties of children involved in offending behaviour, those involved in street gangs and the general population. This information could then be used to inform how additional support can be targeted to those children at most risk of mental health problems.

We would like to ask children in years 7 to 11 to complete an on line questionnaire. If, for any reason, the teaching staff felt it would not be appropriate for someone to complete the questionnaire, they would be not be included.

The questionnaire will be anonymous and so there will be no way to identify which young person filled in which questionnaire. The school will be provided with a report about their student population, but not about individuals. This will provide you with an overview of the mental health needs, gang involvement, offending behaviour and social groupings within your school. The content and structure of this report will be discussed with you to enable us to provide you with the most helpful data and report.

I would be really grateful if you would allow your school to participate since the success of a research project like this depends on obtaining the views of a substantial number of children from the borough. The questionnaire would be completed in school time, in the IT suite, if acceptable to you, using Survey Monkey, and should take about 30 minutes to complete. Every child who completes the questionnaire will be given the option of being entered into a prize draw as a token of appreciation for giving up their time. The prizes are:

1st prize	£300
2nd prize	£200
5 x 3rd Prize	£100

Jane Patmore is able to come and present the research study, and its background, to you in person, or to a team meeting within the school, so that your participation can be considered

further. If you wish to participate please could you contact Jane Padmore on 07837508089 or email her on youngpeoplesquestionnaire@hotmail.co.uk
It is up to you to decide whether allow your school to take part or not. If you decide to give us permission, you are still free to withdraw at any time and without giving a reason, until such time as the survey is completed. As participation is anonymous it will not be possible for us to withdraw your data once they have returned your questionnaire.

If you have any general queries about the study please contact
Jane Padmore
youngpeoplesquestionnaire@hotmail.co.uk

During the course of the study if you are concerned that harm has come to any child in any way, or your school, you can contact King's College London using the details below for further advice and information:

Professor Ian Norman
Associate Dean
Florence Nightingale School of Nursing & Midwifery
King's College London
57 Waterloo Road
London
SE1 8WA
Telephone: +44 (0) 207 848 3020
PA: Olwen McLaren +44(0)20 7848 3600

Many thanks for considering this request,

Jane Padmore
youngpersonsquestionnaire@hotmail.co.uk
07792423149

Appendix 3: Letter to parents

REC Reference Number: PNM/10/11-75

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

The Mental Health of Gang Members

We would like to invite your child to participate in this original postgraduate research project. You should only allow your child to participate if you want to; choosing not to take part will not disadvantage you or him/her in any way. Before you decide whether you want your child to take part, it is important for you to understand why the research is being done and what your child's participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information.

We are interested in the strengths and difficulties of all children and so we have decided to carry out a research project to investigate the mental health of children who may or may not be members of a gang. We are hoping, in particular, to gain a greater understanding of whether there is a difference between the strengths and difficulties of children involved in offending behaviour, those involved in street gangs and the general population. This information could then be used to inform how additional support can be targeted to those children at most risk of mental health problems.

Head teacher's name has agreed that the children in years 7 to 11 in School name can be asked to participate by completing a questionnaire. The special education needs co-ordinator will determine, with Jane Padmore, using the special education needs register, if a young person should not be included in the project. This would be when a young person is not able to understand the questionnaire due to a learning difficulty, not being able to speak enough English or not being able to read.

The questionnaire will be anonymous and so there will be no way to identify which young person filled in which questionnaire. The school will be provided with a report about their student population, but not about individuals.

I should be really grateful if you would allow your son/daughter to participate since the success of a research project like this depends on obtaining the views of a substantial number of children in the school. The questionnaire will be completed in school time, in the IT suite and should take about 30 minutes to complete. Every child who completes the questionnaire will be given the option of being entered into a prize draw as a token of appreciation for giving up their time. The prizes are:

1st prize	£300
2nd prize	£200
5 x 3rd Prize	£100

Please complete the slip below and return it to the school by date if you do NOT wish your child to participate. If we do not hear from you we shall presume you are happy for your child to participate.

If you or your child wishes to talk to someone about any of the issues explored in the questionnaires, have any general queries or want to find out more about the project, please contact
Jane Padmore
youngpeoplesquestionnaire@hotmail.co.uk
02032283262

It is up to you to decide whether allow your child to take part or not. If you decide to allow them to take part they are still free to withdraw at any time and without giving a reason, until such time as the survey is completed. As participation is anonymous it will not be possible for us to withdraw your child's data once they have returned your questionnaire.

If this study has harmed your child in any way you can contact King's College London using the details below for further advice and information:

Professor Ian Norman
Associate Dean
Florence Nightingale School of Nursing & Midwifery
King's College London 57 Waterloo Road London SE1 8WA
Telephone: +44 (0) 207 848 3020
PA: Olwen McLaren +44(0)20 7848 3600

Many thanks for considering this request,

Jane Padmore
Youngpersonsquestionnaire@hotmail.co.uk
02032283262

CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet about the research if you do NOT wish your child to participate in this study.

Title of Study: The Mental Health of Gang Members

King's College Research Ethics Committee Ref:_____

Thank you for considering your child's participation in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet, please ask the researcher before you decide whether to join in. You can keep the information sheet to refer to at any time.

	Please tick or initial
☐ I do not wish my child to participate by completing the questionnaire.	☐
☐ I wish to talk to someone about this research before deciding whether or not my child can complete the questionnaires.	☐
☐ I am happy for my child to complete the questionnaire but would still like to talk to someone about the research.	☐

The information gathered through the questionnaires will be handled in accordance with the terms of the Data Protection Act 1998.

Child's name

Signed **Date**

Name

Contact details

Appendix 4: Information sheet for participants

REC Reference Number: PNM/10/11-75

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

The Mental Health of Gang Members

We would like to invite you to take part in some research. All students in years 7-11 have been asked to participate. The special education needs co-ordinator (*NAME)* with Jane Padmore, using the special education needs register, to decide if anyone should not be included in the project. This was decided when a young person is not able to understand the questionnaire due to a learning difficulty, not being able to speak enough English or not being able to read.

You should only if take part if you want to. If you decide not to take part it will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what you will need to do. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information.

We are interested in finding out about young people, their friendship groups and their strengths and difficulties. From this it is hoped that the right support can be put in place. You have been randomly chosen to take part. We would be very grateful if you would complete the questionnaire on Survey Monkey. This is accessed via

https://www.surveymonkey.com/s/mentalhealthofgangmembers

The survey will take about 30 minutes and your answers are anonymous, no one will be able to link you with the answers you give. The ID number does not link your answers to you but does tell us which school and year the person completing the questionnaire is in. We hope you will enjoy filling the questionnaire in. There are no right or wrong answers; your opinion is what counts. You may skip any questions that you do not want to answer.

Everyone who completes the questionnaire will be eligible to enter a prize draw. The prizes are:

1st prize	£300
2nd prize	£200
5 x 3rd Prize	£100

The winners of the prize draw will be told by XXX.

Paper version option. Please complete and return the attached form to XXX (the teacher supervising the completion of the survey) if you wish to be entered into the draw. Entry to the survey will not connect you to the answers you give.

On line version option. You will be told at the end of the questionnaire how to complete the questionnaire.

By completing the questionnaire you are letting us know that you agree to take part. As we will not be able to link you to your answers, once you have submitted the questionnaire we will not be able to remove your answers.

If you have any questions or concerns about the matters explored in this questionnaire then please do not hesitate to contact Jane Padmore directly on

youngpeoplesquestionnaire@hotmail.co.uk
02032283262

It is up to you to decide whether to take part or not. If you decide to take part you are still free to stop at any time and without giving a reason. If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:
Professor Ian Norman
Associate Dean
Florence Nightingale School of Nursing & Midwifery
King's College London |57 Waterloo Road |London|SE1 8WA
Telephone: +44 (0) 207 848 3020
PA: Olwen McLaren +44(0)20 7848 3600

Many thanks for your help

Jane Padmore

youngpeoplesquestionnaire@hotmail.co.uk

Appendix 5: Study Questionnaire

We would like to invite you to take part in some research. All students in years 7-11 have been asked to participate. The special education needs co-ordinator with Jane Padmore, using the special education needs register, decided if anyone should not be included in the project. This was decided when a young person is not able to understand the questionnaire due to a learning difficulty, not being able to speak enough English or not being able to read.

You should only if take part if you want to. If you decide not to take part it will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what you will need to do. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information.

Everyone who completes the questionnaire will be eligible to enter a prize draw. The prizes are:

1st prize £300

2nd prize £200

5 x 3rd Prize £100

The winners of the prize draw will be told by the end of the school year. Entry to the survey will not connect you to the answers you give.

We are interested in finding out about young people, their friendship groups and their strengths and difficulties. You have been randomly chosen to take part. We would be very grateful if you would complete the following questionnaire.

The survey will take about 30 minutes and your answers are anonymous, no one will be able to link you with the answers you give. We hope you will enjoy filling the questionnaire in. There are no right or wrong answers; your opinion is what counts. You may skip any questions that you do not want to answer.

By completing the questionnaire you are letting us know that you agree to take part. As we will not be able to link you to your answers, once you have submitted the questionnaire we will not be able to remove your answers.

If you have any questions or concerns about the matters explored in this questionnaire or you have any general queries then please do not hesitate to contact Jane Padmore directly at
youngpeoplesquestionnaire@hotmail.co.uk
02032283262

It is up to you to decide whether to take part or not. If you decide to take part you are still free to stop at any time and without giving a reason. If this study has harmed you in any way you can contact King's College London using the details below for further advice and information:
Professor Ian Norman
Associate Dean
Florence Nightingale School of Nursing & Midwifery
King's College London 57 Waterloo Road London SE1 8WA
Telephone: 0207 848 3020
PA: Olwen McLaren 020 7848 3600

Many thanks for your help

Jane Padmore
youngpeoplesquestionnaire@hotmail.co.uk
02032283262

1. I consent to the processing of my personal information for the purposes of this research study. I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.

- ☐ yes
- ☐ no

We are going to start with a few questions about you and your background. Please click on the response that best describes you.

2. I am

- ☐ Male
- ☐ Female

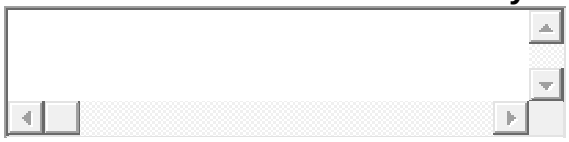
3. How old are you?

- ☐ 11
- ☐ 12
- ☐ 13
- ☐ 14
- ☐ 15
- ☐ 16
- ☐ 17

4. Which Year are you in?

- ○ Year 7
- ○ Year 8
- ○ Year 9
- ○ Year 10
- ○ Year 11

5. Which school or institution do you attend?



6. Think of the place you live most of the time. Which of the following people live with you? (Choose all that apply)

- ☐ Mother
- ☐ Father
- ☐ Stepmother
- ☐ Stepfather
- ☐ Aunt
- ☐ Uncle
- ☐ Grandmother
- ☐ Grandfather
- ☐ Sister(s)
- ☐ Brothers(s)
- ☐ I live alone
- ☐ Other adults or children (please specify)

7. How would you describe your ethnicity? (It is important that you decide how you would describe yourself, for example, Chinese, South East Asian, White British, English, Somali, Black British, mixed race (white and Caribbean), Arabic etc.)

8. Studies have found that many people break the rules and laws some of the time. Please click on the answers that indicate how often during the past 12 months you have done the following things.

	0	1-2	3-5	6-10	more than 10
Skipped classes without an excuse?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ 10
Lied about your age to get into some place or to buy something?	○ 0	○ 1-2	○ 3-5	○ 6-10	more than 10

	0	1-2	3-5	6-10	more than 10
Avoided paying for something such as movies, bus or train rides?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Purposely damaged or destroyed property that did not belong to you?	◉ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Carried a hidden weapon for protection?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Illegally spray painted a wall or building?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Stolen or tried to steal something worth less than £25?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Stolen or tried to steal something worth more than £25?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Gone into or tried to go into a building to steal something?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Stolen or tried to steal a motor vehicle?	○ 0	○ 1-2	○ 3-5	◉ 6-10	○ more than 10
Hit someone with the idea of hurting them?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10

	0	1-2	3-5	6-10	more than 10
Attacked someone with a weapon?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Used a weapon or force to get money or things from people?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
How many times have you been involved in "gang fights"?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Sold illegal drugs?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10

9. For the following drugs, please indicate how often you have used each drug during the past 12 months.

	0	1-2	3-5	6-10	more than 10
Cigarettes, chewing tobacco or other tobacco products?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Alcohol?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Marijuana?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Other illegal drugs?	○ 0	○ 1-2	○ 3-5	○ 6-10	◉ more than 10

10. How often have the following things happened to you during the past 12 months.

	0	1-2	3-5	6-10	more than 10
Been hit by someone	○ 0	○ 1-2	◉ 3-5	○ 6-10	○ more than 10

	0	1-2	3-5	6-10	more than 10
trying to hurt you?					
Had someone use a threat, a weapon or force to get money or things from you?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Been attacked by someone with a weapon or by someone trying to seriously hurt or kill you?	○ 0	○ 1-2	○ 3-5	○ 6-10	○ more than 10
Had some of your things stolen?	○ 0	○ 1-2	○ 3-5	○ 6-10	◉ more than 10

11. During the past 12 months, have you participated in any teams, scouts, sports club, or other formal groups in your school, neighbourhood or city?

○ yes

○ no

If yes, please specify 

12. In addition to any such formal groups, some people have a certain group of friends that they spend time with, doing things together or just hanging out. Do you have a group of friends like that?

- yes
- no

If yes, please specify 

13. About how many people, including you, belong to this group?

- 2
- 3-10
- 11-20
- 21-50
- 51-100
- more than 100

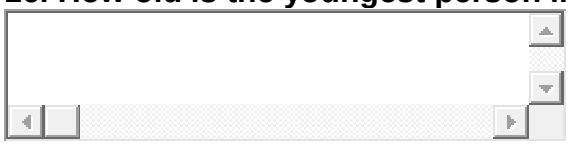
14. How many of your close friends belong to this group?

- all of them
- most of them
- about half of them
- less than half of them
- some of them
- none of them

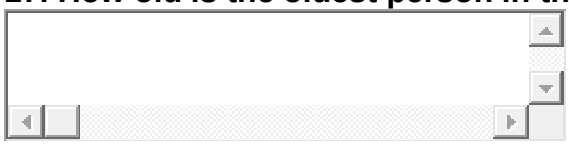
15. Which of the following categories best describes this group?

- all male
- mostly male
- about half male and half female
- mostly female
- all female

16. How old is the youngest person in the group?



17. How old is the oldest person in the group?



18. Which one of the following best describes the ages of people in your group?

- 12 and under
- 13 to 15
- 16 to 18
- 19 to 25
- over 25

19. Which of the following categories describes the people in your group? (please indicate all that apply)

	all of them	most of them	some of them	none of them
White British	all of them	most of them	some of them	none of them
Black Caribbean	all of them	most of them	some of them	none of them
Black African	all of them	most of them	some of them	none of them
Black British	all of them	most of them	some of them	none of them
Duel heritage/mixed race	all of them	most of them	some of them	none of them
Eastern European	all of them	most of them	some of them	none of them
Asian	all of them	most of them	some of them	none of them
South American	all of them	most of them	some of them	none of them
Arabic	all of them	most of them	some of them	none of them

	all of them	most of them	some of them	none of them
other cultural groups	all of them	most of them	some of them	none of them

If other cultural group, please specify

20. Does this group spend a lot of time together in public places like the park, the street, shopping areas, or the neighbourhood?

- yes
- no

21. Does this group have an area or place that it calls its own?

- yes
- no

22. Is this area or place

- a park or playground
- a street, street corner or square
- a drinking or eating place (such as a pub, café, restaurant)
- living space (such as an apartment, house, flat)
- a neighbourhood or area of the city
- Shopping area
- Other

If other, please specify

23. Does your group let other groups come into this area or place?

- yes
- no

24. Does your group defend this area or place against other groups?

- yes
- no

25. How does the group defend this area or place against other groups?

- ☐ Fight
- ☐ Intimidate or threaten others
- ☐ Other

I other (please specify) 

26. How long has this group existed?

- ○ less than 3 month
- ○ 3 months to 1 year
- ○ 1 to 4 years
- ○ 5 to 10 years
- ○ 11 to 20 years
- ○ More than 20 years

27. The following is a list of reasons that young people give for joining groups. Which of them were important reasons for you to join your group? (Tick all that apply)

- ☐ to make friends
- ☐ to feel important
- ☐ to feel like you belong to something
- ☐ to prepare for the future
- ☐ to keep out of trouble
- ☐ for protection
- ☐ to share secrets
- ☐ to get away with illegal activities
- ☐ to have a territory of your own
- ☐ to get your parents respect
- ☐ to meet members of the opposite sex
- ☐ to get money or other things
- ☐ to get money or other things from selling drugs

- [ ] because a friend was a member of the group
- [ ] for company
- [ ] other

If other, please specify 

28. Which of the following characteristics describes your group? (Please indicate all that apply)

	Yes	no
recognised leaders	yes	no
symbols	yes	no
boys and girls do different things	yes	no
Regular meetings	yes	no
specific rules or codes	yes	no
you have to do special things to get in	yes	no
special clothes	yes	no
tattoos	yes	no

29. Is doing illegal things accepted by or okay for your group?

- yes
- no

30. Do people in your group actually do illegal things together?

- yes
- no

31. How often are the following things done by your group?

	Never	rarely	sometimes	often
Threaten people	never	rarely	sometimes	often
Fight	never	rarely	sometimes	often
Steal things	never	rarely	sometimes	often
Get protection money	never	rarely	sometimes	often
Rob other people	never	rarely	sometimes	often
Steal cars	never	rarely	sometimes	often
Sell illegal drugs	never	rarely	sometimes	often
Carry illegal weapons	never	rarely	sometimes	often
Damage/destroy property	never	rarely	sometimes	often
Beat someone up	never	rarely	sometimes	often
Write graffiti	never	rarely	sometimes	often
Use drugs	never	rarely	sometimes	often
Use alcohol	never	rarely	sometimes	often
Break and enter (burglary)	never	rarely	sometimes	often
Other illegal activity	never	rarely	sometimes	often

If other illegal activity, please specify

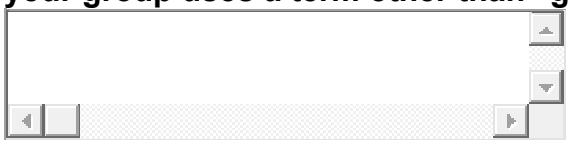
32. Do you consider your group of friends to be a gang?

- yes
- no

33. If you are not now, have you ever been in such a gang?

- yes
- no

34. If you do not use the word "gang" for your group, is there some other term you would use? For example, some groups call themselves clubs, bands, crews, posses, taggers, bikers, party crews, and so on. If your group uses a term other than "gang", what is that term?



35. Are there any gangs in your neighbourhood or city?

- yes
- no
- I don't know

36. The next set of questions is about your group of friends. Please indicate the response that best represents how you feel.

	strongly disagree	disagree	uncertain	agree	strongly agree
Being in my group makes me feel important.	strongly disagree	disagree	uncertain	agree	strongly agree
My group provides a good deal of support and loyalty for each other.	disagree	disagree	. uncertain	agree	strongly agree
Being in my group makes me feel respected.	strongly disagree	disagree	uncertain	agree	strongly agree
Being in my group makes me feel like I'm a useful person.	strongly disagree	disagree	. uncertain	agree	strongly agree

Being in my group makes me feel like I belong somewhere.	strongly disagree	disagree	uncertain	agree	strongly agree
I really enjoy being in my group.	strongly disagree	disagree	uncertain	agree	strongly agree
My group is like a family to me.	strongly disagree	disagree	uncertain	agree	strongly agree

37. For each of the following questions please could you mark the box for not true, somewhat true or certainly true?
It would be helpful if you answer all the questions as best you can even if you are not absolutely certain or the item seems daft. Please give your answers on the basis of how things have been for you over the last six months.

	Not true	somewhat true	certainly true
I try to be nice to other people. I care about their feelings.	Not true	somewhat true	certainly true
I am restless, I cannot stay still for long	Not true	Somewhat true	certainly true
I get a lot of headaches, stomach-aches or sickness	Not true	somewhat true	certainly true
I usually share with others (food, games, pens, etc.)	Not true	somewhat true	certainly true
I get very angry and lose my temper	Not true	somewhat true	certainly true
I am usually on my own. I generally play alone or keep to	Not true	somewhat true	certainly true

myself			
I usually do as I am told	Not true	somewhat true	certainly true
I worry a lot	Not true	somewhat true	certainly true
I am helpful if someone is hurt, upset or feeling ill	Not true	somewhat true	certainly true
I am constantly fidgeting or squirming	Not true	somewhat true	certainly true
I have one good friend or more	Not true	somewhat true	certainly true
I fight a lot. I can make other people do what I want	Not true	somewhat true	certainly true
I am often unhappy, down-hearted or tearful	Not true	somewhat true	certainly true
Other people my age generally like me	Not true	somewhat true	certainly true
I am easily distracted, I find it difficult to concentrate	Not true	somewhat true	certainly true
I am nervous in new situations. I easily lose confidence	Not true	somewhat true	certainly true
I am kind to younger children	Not true	somewhat true	certainly true
I am often accused of lying or cheating	Not true	somewhat true	certainly true

Other children or young people pick on me or bully me	Not true	somewhat true	certainly true
I often volunteer to help others (parents, teachers, children)	Not true	somewhat true	certainly true
I think before I do things	Not true	somewhat true	certainly true
I take things that are not mine from home, school or elsewhere	Not true	somewhat true	certainly true
I get on better with adults that with people my own age	Not true	somewhat true	certainly true
I have many fears, I am easily scared	Not true	somewhat true	certainly true
I finish the work I'm doing. My attention is good	Not true	somewhat true	certainly true

38. Overall, do you think you have difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

- No
- yes, minor difficulties
- yes, definite difficulties
- yes, severe difficulties

39. How long have these difficulties been present?

- Less than a month
- 1-5 months
- 6-12 months
- over a year

40. Do the difficulties upset or distress you?

- Not at all
- Only a little
- Quite a lot
- A great deal

41. Do the difficulties interfere with your everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
Home life	Not at all	Only a little	Quite a lot	A great deal
Friendships	Not at all	Only a little	Quite a lot	A great deal
Classroom learning	Not at all	Only a little	Quite a lot	A great deal
Leisure activities	Not at all	Only a little	Quite a lot	A great deal

42. Do the difficulties make it harder for those around you (family, friends, teachers, etc.)?

- Not at all
- Only a little
- Quite a lot
- A great deal

Thank you for taking the time to fill in this questionnaire.

As a token of our appreciation we would like to offer you the opportunity to enter a prize draw.
The prizes are:

1st Prize £300
2nd Prize £200
3 x 3rd Prizes £100 each

If you would like to be entered into the prize draw please email your

Name
School
Year

to youngpersonsquestionnaire@hotmail.co.uk

The prize draw winners will be notified at the end of the school year.

Many thanks again!

Appendix 6: SDQ Normative data

Normative SDQ data (Meltzer et al., 2000)

SDQ area	Test	Female	Male	Female & Male
Emotional	Mean	3.0	2.6	2.8
	Sd	2.1	1.9	2.1
Conduct	Mean	2.0	2.4	2.2
	Sd	1.6	1.7	1.7
Hyperactivity	Mean	3.6	3.9	3.8
	Sd	2.2	2.2	2.2
Peer	Mean	1.4	1.6	1.5
	Sd	1.4	1.4	1.4
Pro-social	Mean	8.5	7.5	8.0
	Sd	1.4	1.7	1.7
Total	Mean	7.6	10.5	10.3
	Sd	5.6	5.1	5.2
Impact	Mean	0.2	0.3	0.2
	Sd	0.7	0.8	0.8

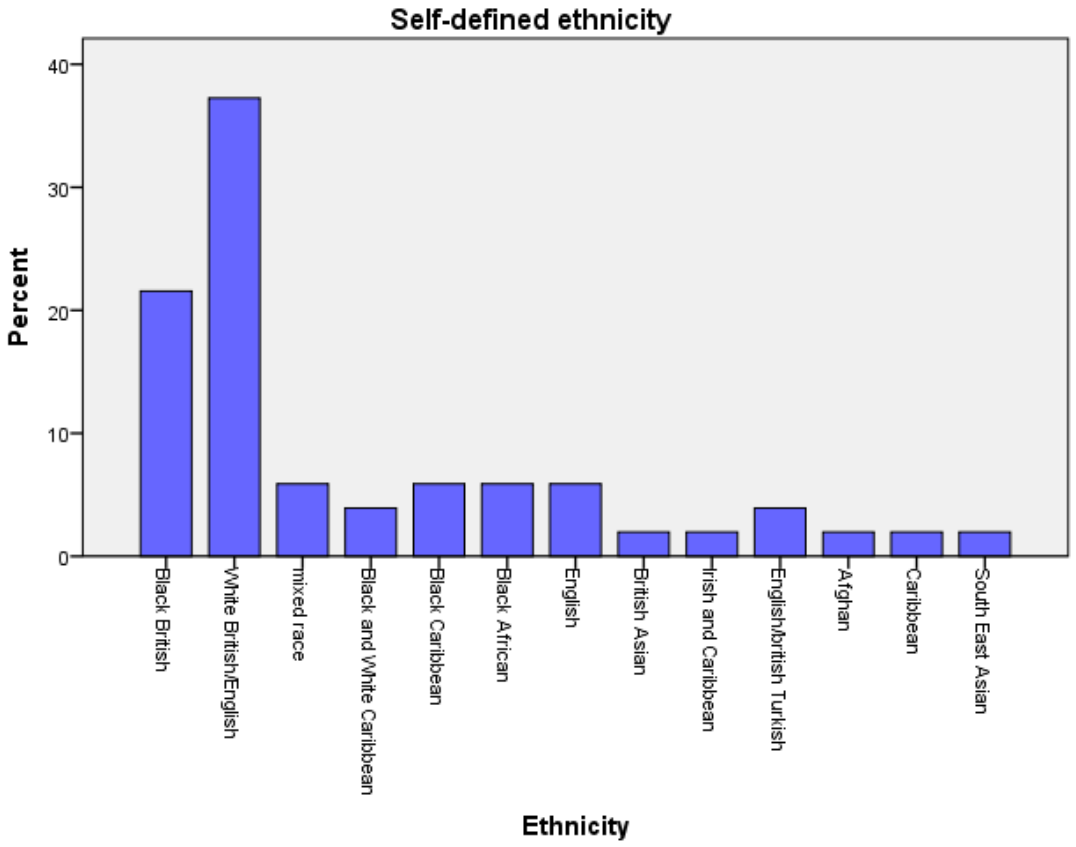
Appendix 7: Comparing the YOI sample with the Schools sample

		School	YOI	Pearson X2 test	Fisher's Exact test
		n (%)	n(%)		
Core offences	yes	289 (64.4)	50 (87.7)	p<.001	
	no	160 (35.0)	7 (57.0)		
Serious offences	yes	230 (51.2)	49 (86.0)	p<.001	
	no	219 (48.8)	8 (14.0)		
Frequent Serious offences	yes	72 (16.0)	37 (64.9)	p<.001	
	no	377 (84.0)	20 (35.1)		
Lives with mother	No	24 (5.3)	22 (38.6)	p<.001	
	Yes	425 (94.7)	35 (61.4)		
Lives with father	No	191 (42.6)	45 (78.9)	p<.001	
	Yes	257 (57.4)	12 (21.1)		
Lives with sister	No	234 (52.1)	41 (71.9)	p<.01	
	Yes	215 (47.9)	16 (28.1)		
Lives with brother	No	209 (46.5)	42 (73.7)	p<.001	
	Yes	240 (53.5)	15 (26.3)		
Use of alcohol	0	287 (66.4)	22 (38.6)		p<.001
	1-2	63 (14.6)	7 (12.3)		
	3-5	31 (72.)	9 (15.8)		
	6-10	19 (4.4)	3 (5.3)		
	more than 10	32 (7.4)	16 (28.1)		
Use of marijuana	0	396 (92.1)	16 (28.1)		p<.001
	1-2	5 (1.2)	7 (12.3)		
	3-5	10 (2.3)	1 (1.8)		
	6-10	1 (0.2)	1 (1.8)		
	more than 10	18 (4.2)	32 (56.1)		

Use of other illegal drugs	0	409 (95.3)	45 (78.9)		p<.001
	1-2	6 (1.4)	5 (8.8)		
	3-5	2 (0.5)	2 (3.5)		
	6-10	1 (0.2)	2 (3.5)		
	more than 10	11 (2.6)	3(5.3)		

Appendix 8: Ethnicity

From the sample of 57 YOI young people 52 responded to the question about their ethnicity with 13 different responses. 13 did not mention a colour whereas 17 stipulated they were black and 22 that they were white.



In the school sample 410 young people described their ethnicity. There was a wide variety of responses which are detailed below.

	General population n (%)	Non-gang offender n (%)	Gang member n (%)	Total n (%)
Black British	25 (21.4)	48 (21.3)	9 (13.2)	82 (20.0)
White British/English	30 (25.6)	54 (24.0)	20 (29.4)	104 (25.4)
Mixed Caribbean/African	1 (0.9)	3 (1.3)	2 (2.9)	6 (1.5)
Black	1 (0.9)	1 (0.4)	1 (1.5)	3 (0.7)

White African	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Asian	5 (4.3)	10 (4.4)	1 (1.5)	16 (3.9)
East Asian	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Black British African	0 (0)	1 (0.4)	2 (2.9)	3 (0.7)
Black Bangladeshi	0 (0)	1 (0.4)	0 (0)	1 (0.2)
mixed race	9 (7.7)	13 (5.8)	1 (1.5)	23 (5.6)
White	0 (0)	3 (1.3)	3 (4.4)	8 (2.0)
Black and White Caribbean	2 (1.7)	1 (0.4)	1 (1.5)	4 (0.9)
White Spanish	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Black Caribbean	0 (0)	7 (3.1)	7 (10.3)	14 (3.4)
Chinese	3 (2.6)	2 (0.9)	0 (0)	5 (1.2)
Light	0 (0)	0 (0)	1 (1.5)	1 (0.2)
Portuguese/White Portuguese	1 (0.9)	1 (0.4)	0 (0)	2 (0.5)
Black African	2 (1.7)	10 (4.4)	4 (5.9)	16 (3.9)
Eastern European	2 (1.7)	1 (0.4)	0 (0)	3 (0.7)
Black American	1 (0.9)	1 (0.4)	0 (0)	2 (0.5)
Latin American/ South American	2 (1.7)	9 (4.0)	0 (0)	11 (2.7)
English	5 (4.3)	7 (3.1)	6 (8.8)	18 (4.4)
Somalia	0 (0)	2 (0.9)	1 (1.5)	3 (0.7)
African	1 (0.9)	3 (1.3)	1 (1.5)	5 (1.2)
Spanish and Portuguese	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Black British Caribbean	1 (0.9)	4 (1.8)	1 (1.5)	6 (1.5)
White European	0 (0)	2 (0.9)	0 (0)	2 (0.5)
Polish/white Polish	1 (0.9)	4 (1.8)	0 (0)	5 (1.2)
Middle Eastern British	0 (0)	0 (0)	1 (1.5)	1 (0.2)
British	2 (1.7)	4 (1.8)	0 (0)	6 (1.5)
Mixed Black Caribbean	0 (0)	0 (0)	1 (1.5)	1 (0.2)
Saudi Arabian	0 (0)	1 (0.4)	0 (0)	1 (0.2)

White Asian	1 (0.9)	0 (0)	0 (0)	1 (0.2)
British Asian	2 (1.7)	0 (0)	0 (0)	2 (0.5)
Bengali	0 (0)	2 (0.9)	0 (0)	2 (0.5)
African Italian	1 (0.9)	0 (0)	0 (0)	1 (0.2)
White British Algerian	0 (0)	1 (0.4)	0 (0)	1 (0.2)
White Asian	1 (0.9)	1 (0.4)	0 (0)	2 (0.5)
British Albanian	1 (0.9)	0 (0)	0 (0)	1 (0.2)
British Chinese Asian	0 (0)	0 (0)	1 (1.5)	1 (0.2)
Algerian	1 (0.9)	0 (0)	1 (1.5)	2 (0.5)
White African British	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Nigerian British	0 (0)	3 (1.3)	0 (0)	3 (0.7)
Irish English	1 (0.9)	1 (0.4)	0 (0)	2 (0.5)
Irish British	2 (1.7)	0 (0)	0 (0)	2 (0.5)
White South American	0 (0)	0 (0)	1 (1.5)	1 (0.2)
White Romanian	1 (0.9)	0 (0)	0(0)	0 (0)
Columbian	0 (0)	4 (1.8)	0 (0)	4 (1.0)
Italian British	0 (0)	1 (0.4)	0 (0)	1 (0.2)
South American and Spanish	3 (2.6)	0 (0)	0 (0)	3 (0.7)
White Irish	0 (0)	2 (0.9)	0 (0)	1 (0.2)
Mixed White and African	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Spanish and Caribbean	2 (1.7)	0 (0)	0 (0)	2 (0.5)
Irish and Caribbean	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Black British Caribbean and African	1 (0.9)	0 (0)	1 (1.5)	2 (0.5)
Black European	1 (0.9)	1 (0.4)	0 (0)	2 (0.5)
Vietnamese Asian	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Irish, English and Nigerian	0 (0)	0 (0)	1 (1.5)	1 (0.2)
British mixed Portuguese Arabic	1 (0.9)	0 (0)	0 (0)	1 (0.2)

Zimbabwe, Uganda, Ireland, England	0 (0)	1 (0.4)	0 (0)	1 (0.2)
South East Asian	1 (0.9)	0 (0)	0 (0)	1 (0.2)
Mixed white	0 (0)	2 (0.9)	0 (0)	2 (0.5)
Colombian	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Indian, Irish and English	0 (0)	1 (0.4)	0 (0)	1 (0.2)
British Filipino	0 (0)	2 (0.9)	0 (0)	2 (0.5)
French and Sudanese	0 (0)	1 (0.4)	0 (0)	1 (0.2)
Greek	1 (0.9)	0 (0)	0 (0)	1 (0.2)

Appendix 9 The general health needs of gang members

Risk identified	Studies
Drinking and drug use	Vigil and Long, 1990; Curry and Spergel, 1992; Bjerregaard and Smith, 1993; Esbensen et al, 1993; Hill et al, 1999; Thornberry et al, 1993; Harper et al, 2008; Gordon et al, 2004
Risky and early sexualised behaviour	Hill et al, 2001; Kosterman et al, 1996; Bjerregaard and Smith, 1993; Brooks et al, 2009; Salazar et al, 2007, Ulman et al., 2006; Voisin et al, 2004; Wingood et al 2002.
Non-accidental injury	DCSF, 2010; DuRant et al., 2000; MacDonald et al, 2007; Peterson et al, 2004
Acting in a daring, courageous way, especially in the face of adversity	Moore, 1991; Vigil, 1988
Aggression	Campbell, 1984a, 1984b; Cohen, 1960; Horowitz, 1983; Miller et al, 1962; Sanchez-Jankowski, 1991; Bendixon et al, 2006; Gatti et al, 2005